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ABSTRACT

The Project ACCESS (Adapting Curriculum Content for Exceptional Secondary Students) resource guide is designed to help regular classroom teachers provide successful experiences to mildly handicapped mainstreamed students through the adaptation of the curriculum. The concerns-based approach, which was used successfully by Project ACCESS, focuses on individual teachers' concerns regarding mainstreamed students and incorporates a six-step process from identification of concerns to provision of feedback and evaluation. Examples of the model are given for curriculum modifications in automotive mechanics, math, science, art, driver education, social studies, English, health, and biology. A question and answer format is used to examine adoption of the concerns-based model in terms of rationale, audience, introduction into a school, implementation, requirements for success, time requirements, funding ideas, encouragement for other teachers' involvement, variations of the model, and implementation of a staff support team. A summary of other models tried but not retained by the project is also included.

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PROJECT ACCESS
RESOURCE GUIDE

Terry E. Allison

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PROJECT ACCESS
RESOURCE GUIDE

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The Project ACCESS Guide is the result of many long hours of work in trying out different models for effecting modifications in the curriculum for mainstreamed secondary, special education students in a number of high schools and the Western Vocational-Technical School in Montgomery County, Pennsylvania. The individual primarily responsible for the success of the project and the production of the Guide is Terry Allison, Project Associate. We wish to express our sincere appreciation for the excellent quality of his work on behalf of mainstreamed special education students.

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PREFACE

The notion of modifying regular education curricula to enable more handicapped students to function successfully in the mainstream is not new. The literature spanning the last two decades is full of suggestions pertaining to the modification of teaching techniques and instructional materials. Special educators have put these suggestions into practice in the special education classrooms. We have not been as successful reaching out to regular teachers with this information. Regular teachers have been given little help with the implementation of these suggestions for their mainstreamed students. The help given up to this point has mainly involved adapting materials and giving them to regular teachers.

If special educators are serious about modifying regular education curriculum for handicapped students, we cannot continue to work within the vacuum of special education; we cannot presume to tell regular educators how to do their job; and we cannot expect regular teachers to initiate a communication process. The consensus of special educators nationwide has been to develop materials and hand them over to regular teachers without involving the regular teacher in the creation of these adaptations. This is based on the widely held premise that regular teachers will not devote time and energy to modify curriculum for handicapped students. This belief is clearly challenged by the results of Project ACCESS. Regular teachers, when properly approached, can and will modify curriculum for their mainstreamed students.

Curriculum modification for handicapped students is an enormous and complex task which must involve regular educators and administrators every step of the way. Bringing about curricular change is a process in which the activities designed to solicit teachers' and administrators' cooperation are as important as the curricular changes themselves.

The process of involving regular classroom teachers in making curricular changes for handicapped students has been examined by a project operated by Montgomery County Intermediate Unit since 1982. Project ACCESS (Adapting Curriculum Content for Exceptional Secondary Students) is funded by the Pennsylvania Developmental Disabilities Council under Public Law 95-602. The research and extensive field experience of this project have produced results that demonstrate a model approach for helping regular teachers develop and implement curricular modifications for mainstreamed students.

Through our research and discussions with other educators and by initiating activity in our field test sites, several models evolved. These were tested and refined until one approach emerged as a particularly successful means of enlisting regular teachers' involvement in working on behalf of handicapped students. The Concerns Based Action Planning Model has demonstrated the most promise and forms the basis of the recommendations offered in this guide.

We found that there is a great deal of concern in our schools around the topic of programming for mainstreamed students. Teachers were extremely verbal about their concerns and willing to share them with colleagues and project staff. The expression of these concerns opened a dialogue with the teachers. This eventually resulted in a plan of action by which the teachers could address their personal concerns about mainstreaming. A high level of involvement and commitment on the part of teachers is developed when the focus is on their concerns. They are encouraged to give input and they remain responsible for much of the decision making.

The Project ACCESS Resource Guide is designed to assist educators who are charged with the responsibility of helping regular classroom teachers in their important work of providing successful experiences to mildly handicapped students in the mainstream. Special education directors, supervisors, resource teachers and consultants as well as principals, department heads and curriculum supervisors will find practical and proven methods in this guide for enlisting teacher cooperation and involvement in this work.

The development of the guide was based on our experiences. Valuable information was obtained as the project tried out various approaches in five high schools and one vocational-technical school in Montgomery County, Pennsylvania. Formal and informal feedback was frequently collected from teachers, students and administrators involved in the project. This feedback helped the staff to sift out the elements of a successful approach. Formative and summative evaluation data and routine self-assessment by the Project ACCESS staff using a discrepancy analysis approach contribute to our confidence in the recommendations set forth in this guide.

The best indication of the potential value of the recommended model can be found in the products developed by regular teachers who have participated in the Concerns-Based Action Planning Model. Dozens of teachers have experienced this approach and as a result, have made significant changes in their instructional materials and techniques. Several examples of these revisions are included in the guide so you can judge for yourself the potential value of this model.

While the experiences of Project ACCESS have been at the high school level, we suggest that the Concerns-Based approach is generic and can be used just as successfully with teachers at all levels. Further, it is suggested that this approach can be useful in working with teachers to bring about curricular changes apart from those intended for helping mainstreamed students.

To all educators who are responsible for guiding teachers and encouraging curricular change, I commend The Concerns-Based Action Planning Model, confident that you will find this to be a productive approach.

Nancy Anderson

INTRODUCTION TO CONCERNS-BASED ACTION PLANNING

INTRODUCTION TO CONCERNS-BASED ACTION PLANNING

Nearly all regular teachers who have special education students mainstreamed into their classrooms have concerns about the abilities of these students. This concern provides an opening for discussion and reveals a focal point for interaction between the special educator and the regular educator. This concern, usually motivated by a desire to see the student succeed, presents an opportunity to engage the regular teacher in a cooperative problem-solving effort. The special educator and regular teacher can cooperatively identify a variety of possible actions that address the concern. Once identified, these potential actions can be considered in light of the resources available and the assistance and support that can be offered by the special educator.

Putting the focus on each teacher's personal concern about the special students in the regular classroom and supporting the teacher in addressing this concern is a process that encourages a high level of commitment and involvement on the part of the teacher. Accepting the notion that all people are motivated, but for their own reasons, this process provides the opportunity for motivation to emerge as the concern presents the reason. It becomes the reason to act. It has been our experience that teachers will take action when it is directed toward addressing their own concerns.

The chart on the following page illustrates the various stages of the Concerns-Based Action Planning Model. Project ACCESS has successfully used this process in one-to-one work with individual teachers. Several cases are presented to exemplify this process in action. This process can also be utilized when working with a group. The project developed and implemented a variation of the model for group work called the Staff Support Team Model. Details of the Staff Support Team approach will be presented later in this guide.

The reader is advised that the process is an easy one to learn and understand. However, some precautions must be understood before trying to implement it. Consequently, much attention will be given in this guide to the many factors that are critical to consider before attempting to implement either the individual or group version of the model.

CONCERNS-BASED ACTION PLANNING

Features:

1. Planning addresses individual concerns.
2. Participants display high level of commitment.
3. Support to participants is provided throughout.

Process:

A. **Identify Concerns Regarding Mainstreaming**

- Interview key staff members.
  and/or
- Conduct a group discussion.

B. **Clarify Concerns**

- Isolate essential aspects of concern(s).

C. **Identify Actions**

- Consider available resources.
- Focus on actions that fall within the scope of the individual's or group's authority.
- List actions to address the concern(s) that are practical to implement.

D. **Select Actions**

- Invite individual participants to choose an action that is personally relevant.

E. **Execute Actions**

- Support individual participants as actions are developed and implemented.

F. **Feedback/Evaluation**

- Encourage participants to report results of actions.
- Use feedback to evaluate necessity for alternative actions.
- Seek alternative actions, if needed.

THE CONCERNS-BASED MODEL IN ACTION

Example 1: Automotive Mechanics Teacher
Area Vocational-Technical School

CONCERN: Mainstreamed students had difficulty reading course materials.

SPECIFIC CONCERN: Certain mainstreamed students wanted to be certified as Pennsylvania Auto Inspection Mechanics. PROBLEM: The Pennsylvania Auto Inspection Manual was difficult to read and to understand. Because it was written by attorneys, the rules and regulations for a state inspection were described using legal terms which were unfamiliar to the students. The printing was small and the information was tightly packed on every page. The content was organized in a way that did not promote easy reading.

VARIOUS ACTIONS IDENTIFIED:

- Have a reader tape record the contents for students.
- Have a special ed. resource teacher read the manual and explain difficult passages to students.
- Rewrite the manual using plain language and reorganizing content.

ACTION SELECTED: The third option, to rewrite the manual, was selected by the teacher.

ACTION IMPLEMENTED: The auto mechanics teacher wrote a first draft of the revision. This was then reviewed by the special educator who developed a second draft that further clarified the vocabulary. This second draft was returned to the auto mechanics teacher who checked the content for technical accuracy. The final document represents the combined efforts of the shop teacher and special teacher.

RESULTS: The revised manual provides an excellent study guide for the students. If further help is needed, the guide can be the basis of tutorial help which can be given by the special ed. resource teacher, the parents, or an after-school tutor.

To date, several students have used the revised manual and have greatly improved their performance on a state certification exam.

▶ TURN TO THE NEXT SEVERAL PAGES OF THIS GUIDE TO SEE SAMPLE PAGES FROM THE ORIGINAL STATE MANUAL AND THE TEACHER-MADE REVISION.

Sample page from: The Pennsylvania Auto Inspection Manual

(iii) Suggested manufacturer's retail price sheet may be affixed to new vehicle of dealer. These labels are permitted only on lower portion of side window, as far to rear of vehicle as possible. When vehicle is sold, this label shall be removed.

(d) Obstructions. Vehicles specified under this subchapter shall have glazing free from obstructions as described in § 175.80 (relating to inspection procedure).

(1) No sign, poster, or other material shall be placed on windshields or front side windows so as to obstruct, obscure or impair driver's clear view of highway or any intersecting highway.

(2) No vehicle specified under this subchapter shall have any sign, poster, or other non-transparent material on rear side window, rear wing or rear window which either covers more than 20% of the exposed portion of the windows or wings, or extends more than 3½ inches above the lowest exposed portion of windows or wings.

(3) The requirements of this subsection also apply to glass etchings except those used for vehicle identification.

175.68. Mirrors.

(a) Condition of mirrors. All mirrors shall be in safe operating condition as described in § 175.80 (relating to inspection procedure).

(b) Rear-view mirrors. Vehicles specified under this subchapter shall be equipped with at least one rear-view mirror, or similar device which provides driver unobstructed view of highway to rear of vehicle for distance of not less than 200 feet. Mirrors shall not be cracked, broken or discolored.

(c) Obstructions. Every rear-view mirror shall be free from obstructions as described in § 175.80 (relating to inspection procedure).

(1) Vehicles specified under this subchapter having sign or load or any material which obstructs, obscures or impairs driver's clear view of highway or any intersecting highway shall have two outside rear-view mirrors, one on driver's side and one on passenger's side, each with minimum reflective surface of 19.5 square inches.

(2) Rear window louvers are permitted only if vehicle has at least two outside rear-view mirrors, one on driver's side and one on passenger's side, each with minimum reflective surface of 19.5 square inches.

(3) If approved—see Appendix C—transparent sun-screening material is placed on rear side windows, rear wings or rear windows; rear-view mirrors shall be installed on both sides of vehicle.

(4) No object or material shall be hung from rear-view mirror and no object or material shall be hung, placed or attached in such position as to materially obstruct, obscure, or impair driver's vision through windshield or in any manner constitute safety hazard.

(5) The requirements of this subsection also apply to glass etchings except those used for vehicle identification.

(d) Motor homes. Every motor home shall be free from obstructions as described in this subchapter.

(i) Any vehicle manufactured as or permanently converted into motor home with GVW of 11,000 pounds or less may have windows—approved glass only—transparent screens, and roll-up shades or curtains installed, if shades and curtains are securely fastened in completely opened position, so as to avoid covering any portion of window, while vehicle is being operated on highway. Venetian blinds shall not cover any window while vehicle is operated on highway.

(ii) In event any window must be covered for installation of wardrobe, cupboard or other convenience; it shall be factory installed or otherwise permanently installed—optional equipment or facsimile only. Two outside mirrors shall be installed to afford operator a clear view 200 feet to rear of vehicle.

175.69. Windshield defrosters.

Every windshield defroster system shall be in safe operating condition.

175.70. Windshield washers.

Windshield washer systems shall be installed and in safe operating condition on all passenger cars and light trucks manufactured after 1968.

175.71. Windshield wipers.

(a) Condition of windshield wipers. Every wiper system shall be in safe operating condition as described in § 175.80 (relating to inspection procedure).

(b) Cleaning. Vehicles specified under this subchapter shall be equipped with wiper system, capable of cleaning rain, snow and other moisture from windshield and so constructed as to be operated by switch conveniently located for use by driver while in normal operating position.

(1) Wipers shall operate as specified by manufacturer or a minimum of 45 cycles per minute if not specified.

(2) Vehicles specified under this subchapter originally equipped with two wiper blades and two wiper arms—driver and passenger side—shall have all in place and in good working order.

175.72. Fuel systems.

(a) Condition of fuel systems. All components in fuel system shall be in safe operating condition as described in inspection procedure of this subchapter.

(b) Fuel system requirements. All fuel system components shall be leakproof and shall be fastened securely to vehicle with fasteners designed for that purpose.

(c) Accelerator operation. Accelerator control system shall return engine throttle to idle position when operator removes actuating force from accelerator control.

(d) Filler cap. Fuel system shall be equipped with filler cap.

(e) Alternate fuel systems. See Subchapter M (relating to alternate fuel systems and controls).

175.73. Speedometers.

Vehicles specified under this subchapter shall have an operating speedometer calibrated to indicate miles per hour or kilometers per hour.

175.74. Odometers.

Vehicles specified under this subchapter except motor

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Sample page from: The Pennsylvania Auto Inspection Manual

175.80. Inspection procedure.

(a) External inspection. An external inspection shall be performed as follows:

(1) Verify ownership and legality and REJECT IF any of the following apply:

(i) VIN is not in agreement with registration certificate, title or manufacturer's statement of origin. Exception: If only one digit is incorrect or two digits are transposed, and the owner provides evidence tht the appropiate department form has been completed to correct error or transposition.

(ii) VIN plate is not securely fastened, or is defaced, misplaced or missing.

(iii) Registered vehicles only, if any of the following apply:

(A) License plate is not in agreement with numbers on registration certificate. Exception: If only one digit is incorrect or two digits are transposed, and the owner provides evidence that the appropiate department form has been completed to correct the error or transposition.

(B) License plate is hanging loosely from its mounting bracket.

(C) License plate is obscured so that numbers cannot be identified.

(D) License plate lamp, if so equipped, does not illuminate license plate.

(2) Check glazing.

(i) Check glazing and REJECT IF any of the following apply:

(A) Approved safety glazing is not used in every windshield, window or wing.

(B) Any sign, poster or other non-transparent material obstructs, obscures or impairs driver's clear view of highway or any intersecting highway. See Appendix C.

(C) Non-transparent material extends more than 3 ½ inches from lowest exposed portion of rear window, rear side windows or rear wings. See Appendix C.

(D) Motor vehicle has any sign, poster or other non-transparent material on windshield or front side windows, other than officially approved and properly located parking stickers.

(E) Glass is shattered or broken or has any exposed sharp edges.

(F) Windshield is removed.

(G) There are any defects in acute area of windshield,—center of critical area on driver's side of vehicle directly in driver's normal line of vision, 8 ½ inches wide and 5 ½ inches high—or discolorations or hazardous cracks to front, right, left, or rear of driver which would interfere with driver's vision. See Appendix C.

(H) Glass etchings, except those used for identification, are on windshield or front side windows.

(I) Glass etchings extend more than 3 ½ inches from lowest exposed portion of rear window, rear side windows or rear wings.

(ii) Nothing in this paragraph shall prohibit use of any products or materials along top edge of windshield or any window as long as such products or materials are transparent and do not encroach upon AS-1 portion of windshield as provided in Chapter 161 (relating to glazing materials).

(3) Check windshield wiper system and REJECT IF any of the following apply:

(i) Wipers do not operate as specified by manufacturer or 45 cycles per minute if not specified.

(ii) Wiper blades are torn, or smear or streak windshield (after 5 cycles).

(iii) There is only one wiper, where two are required.

(iv) Wipers do not return to "rest" position.

(4) Check door operation, including tailgate, and REJECT IF any of the following apply:

(i) Doors are not on vehicle if originally fitted by manufacturer.

(ii) Doors, including tailgate, cannot be closed securely.

(5) Check mirros and REJECT IF any of the following apply:

(i) Mirror is cracked, broken, or discolored.

(ii) Mirror will not hold adjustment.

(6) Check fenders, hood and trunk lid and REJECT IF any of the following apply:

(i) Any fender front and rear has been removed.

(ii) Fenders are not of type and size used as original equipment.

(iii) Hood does not cover entire motor compartment or cannot be fully closed.

(iv) Trunk lid does not close.

(v) Fender flares exceed 3 inches in width.

(7) Check flooring and floor beds and REJECT IF any of the following apply:

(i) Not in a condition to support occupants and cargo.

(ii) Floor pan is rusted through so as to cause hazard to occupants or to permit exhaust gases to enter passenger compartment.

(8) Check bumpers and REJECT IF any of the following apply:

(i) Bumper, if required as original equipment, is not on vehicle.

(ii) Bumpers are not firmly attached to frame or chassis.

(iii) Some part of horizontal bumper bar on passenger vehicles does not fall within 16-20 inches above ground level.

(iv) Some part of horizontal bumper bar on multi-purpose passenger vehicles and light trucks does not fall within 16-30 inches above ground level.

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Sample page from the teacher-made revision: Auto Inspection Study Guide.

WINDSHIELD WIPERS

DEFINITION

A system used to clear rain and snow from the windshield.

RELATED TERMS

- wiper arms - parts held to motor and wiper blade to aid in clearing of windshield.
- wiper blades - rubber material that touches the windshield.
- rest position - parked or normal OFF position of windshield wipers.

EQUIPMENT STANDARDS

A. Windshield wiper system must be in safe operating condition.

B. Vehicles must have a wiper system that can clean rain and snow from the windshield. The wiper system must be worked by a switch that is placed for easy use by the driver.

C. Wipers must work as stated by builder. If not stated by builder, they must work 45 cycles a minute or more.

D. Vehicles built with 2 wiper blades and 2 wiper arms (1 on the driver side and 1 on the passenger side), must have all in place and in good working order.

INSPECTION PROCEDURE

Check the windshield wiper system.

REJECT IF:

1. Wipers do not work as stated by builder, or at least 45 cycles a minute if not stated.
2. Wiper blades are torn, or smear or streak the windshield (after 5 cycles).
3. There is only 1 wiper when there should be 2 wipers.
4. Wipers do not return to rest position.

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Sample page from the teacher-made revision: Auto Inspection Study Guide.

BACK-UP LAMP

DEFINITION

A lamp used to give light in back of the vehicle. It gives a warning that the vehicle is backing up.

RELATED TERMS

assembly - parts that fit together to make a certain piece of equipment.

automatically - by itself.

SPECIFICATIONS

Number: 1 minimum
Color: White
Distance: 200 feet

STANDARDS

A. Lamps and switches must be in safe operating condition.
B. Lamps must be properly fastened. The light must shine in the right direction. Nothing may block the light or change its color.
C. Back-up lamps must not light when the vehicle is moving forward. They must turn off automatically when the vehicle goes forward. If the lamp does not turn off automatically, there must be a dash indicator light or warning sound.

INSPECTION PROCEDURE

Check lamps and lenses.

REJECT IF:

1. Bulb does not light properly.
2. Lamp is not white.
3. Lamp has a missing or broken lens.

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Sample page from the teacher-made revision: Auto Inspection Study Guide.

BACK-UP LAMP (Continued)

INSPECTION PROCEDURE (Continued)

REJECT IF: (Cont'd.)

4. Back-up light assembly is missing.
5. Extra parts are placed on, in, or in front of the lamp (such as a bike rack or ski rack).
6. There is no indicator light or warning sound from the dash if back-up lamps do not go off automatically when the vehicle goes forward.
7. Indicator light or sound on dash does not operate properly.

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Example 2: Math Teacher
Rural High School

CONCERN: Mainstreamed students (and for that matter many other students) had difficulty solving word problems.

SPECIFIC CONCERN: Many students who were able to calculate mathematical computations were not so successful at understanding word problems. Therefore, they were unable to apply their computation skills to solving real practical problems.

VARIOUS ACTIONS IDENTIFIED:

- Contact the middle school math department and ask them to put more emphasis on this skill.
- Ask the special ed. teachers to mainstream only those students who demonstrate the skill of solving word problems.
- Develop instructional packets to teach and reinforce the skill of solving word problems.

ACTION SELECTED: The third option, to develop instructional packets, was selected by this teacher.

ACTION IMPLEMENTED: The special educator arranged for the teacher to have access to materials at a regional resource center. The regular teacher researched materials covering the skill of word problem solving. Drawing on those sources and using her own creativity, the regular teacher developed a set of instructional packets. These were reviewed and sometimes revised by the special educator. The finished product is a result of the collaborative efforts by both specialists.

RESULTS: The instructional packets have given this math teacher a way to provide instruction in a skill that had been a concern. Some of the mainstreamed students have completed the packets prior to placement in a math class. Upon hearing about these packets, several other area high schools have requested the materials and are now using them as part of their general math course content.

▶ TURN TO THE NEXT SEVERAL PAGES TO SEE SAMPLE PAGES OF THE WORD PROBLEM SOLVING PACKETS.

Sample page from: Learning To Solve Word Problems.

Unit A — Look for Question

The first step in solving word problems is to look for the question. The question in a word problem tells you what you are to find. This question is usually (but not always) found at the end of a word problem. A question is always ended with a question mark (?).

One way to pick out the question is to look for the following question words or phrases:

who		
how		
when		when will
what	how many	where did
why	how much	what is
where		which is
which		

First, you should read the problem. Then pick out the question word or phrase.

For example:

Apples cost 15c each. How much will 3 apples cost?

How much is the question phrase.

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Sample page from: Learning To Solve Word Problems.

Now try these.
Underline the question word or phrase in each problem.

1. There are 12 inches in a foot. How many inches are in 4 feet?

2. Tom has 6 books. Each book weighs 1 kilogram. What is the weight of all the books?

3. Ellen works 8 hours each day. She starts work at 8:00 in the morning. When does she stop work each day?

4. Jane bought 5 bags of balloons. If each bag has 6 balloons, how many balloons did she buy?

5. Mr. Smith wants to build a fence 58 feet long. He has 27 feet of fence completed. How much of the fence is left to build?

The answers to the problems above are:

1. How many

2. What is

3. When

4. how many

5. How much

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Sample page from: Learning To Solve Word Problems.

Finding the Question

Read each problem. Underline the question word or phrase. Do not work out the problem.

Example: Jack is 15 years old. Joe is 13 years old.
Who is the oldest boy?

1. Bob left home on Monday for a five day vacation. When will he return?

2. Which is longer, a kilometer or a mile?

3. Mary will be 21 years old next week. She is five years older than Joyce. How old is Joyce?

4. If a coat costs $79 and shoes cost $20, how much would you pay for both?

5. How much more than 23 is 28?

6. What is the price of ¼ of a pizza pie if the whole pie costs $2.40?

7. How much would Julio save in a month if he can save $5 each week?

8. Maria went shopping for her mother. The grocery bill was $7.50. How much change did she receive if she gave the man $10.00?

9. Juan spent $2.00 at the movies and $1.75 at the ice cream parlor. Where did Juan spend the most money?

10. At the supermarket your check-out tape lists: meat, $3.39; milk, $.58; bread, $.35; and vegetables, $1.29. If you give the cashier $10.00, how much change will you get back?

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Sample page from: Learning To Solve Word Problems.

Writing Questions

who	how much	what will
how	how many	what is
when		who is
what		where is
why		which is
where		
which		

Read the statements below and think about each story. Write a sentence which asks a question about the story. Start your question with one of the words or phrases above. Make sure you write a question that can be answered.

Example: In the morning, Bill will work 2 hours. In the afternoon, he will work 3 hours.

Some possible questions:
a. How many hours will Bill work in all
b. When will he work longer, the mornin or the afternoon?

1. Jack bought 2 candy bars at 10¢ each. He gave the man a quarter.

_____?

2. Sue lives 50 miles from the city. John lives 75 miles from the city in the same direction.

_____?

3. The old woman had 25 bunches of flowers in her basket. Five sisters came along and bought all the flowers.

_____?

4. It takes Ben 30 minutes to travel 2 miles on his bicycle. Yesterday he rode for 60 minutes.

_____?

5. Mother went to the grocery store today. She bought a quart of milk for 45¢ and a loaf of bread for 39¢.

_____?

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Sample page from: Learning To Solve Word Problems.

After you find the question you must decide what the question is asking for. Sometimes you may need to read the question several times before you decide. It is important for you to read carefully.

Look at the following example.

Mary worked 6 hours on Wednesday, 4 hours on Friday, 5 hours on Saturday, and 2 hours on Sunday. How many hours did she work this week?

What is this question asking for?

A. Hours worked on Wednesday and Friday
B. Hours worked on Saturday and Sunday
C. Total hours worked in the week.

The answer is C. The question is asking for the number of hours worked in the week.

Now you try to find what the question is asking in each of the following examples. Circle the correct answer A, B, or C.

1. During the past week the following rainfalls were recorded:
   Tuesday — 2 inches
   Thursday — 3 inches
   Saturday — 1 inch
   Sunday — 2 inches
   How many inches fell during the week?

   A. The total rainfall for Tuesday
   B. The total rainfall for the month
   C. The total rainfall for the week

(Continued)

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Sample page from: Learning To Solve Word Problems.

Circle the correct answer A, B, or C. (Continued)

2. The number of boys in ninth grade is 225 and the number of girls in ninth grade is 200. What is the ratio of girls to boys in the ninth grade?

   A. A. The total number of students in the ninth grade
      B. The ratio of girls to boys in the ninth grade
      C. The ratio of boys to girls in the ninth grade

The correct answers to the problems above are:

1. C
2. B

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Sample page from: Learning To Solve Word Problems.

What is the Question?

The question in a problem tells you what to find. For each problem below, circle A, B, or C to show what the question asks you to find.

1. The high temperature on Wednesday was 26°C. This was 13° more than Tuesday's low temperature, but only 3°C more than Tuesday's high. What was the highest temperature on Tuesday?

   A. Wednesday's highest temperature
   B. Tuesday's highest temperature
   C. Tuesday's lowest temperature

2. A rental car costs $19.95 a day. The cost of insurance is $2.50. You must also pay the cost of the gasoline used. The total cost of a car for one day was $40.90. What was the cost of the gasoline?

   A. The total cost of the car
   B. The cost of the gasoline
   C. The distance driven

3. A plane leaves New York City at 8:05 A.M. It arrives in Miami at 10:34 A.M. How long was the flight?

   A. The number of hours to fly from New York City to Miami
   B. The distance from New York City to Miami
   C. The time that the plane landed in Miami

4. The Cougars were ahead at halftime. The score was 29 to 23. In the second half, the Cougars scored 19 points. The other team scored 24 points. Who won the game?

   A. The Cougars' total score
   B. The other team's total score
   C. The team with the highest score at the end of the game

5. The odometer on Frank's car read 17,682 on Monday morning. Each day of the week Frank only drove to work and back. This was a distance of 16 miles each way. On Friday evening, what was the odometer reading?

   A. Number of miles driven to work each day
   B. Number of miles driven other than to work and back
   C. Number of miles on the odometer at the end of the week

Check your answers with the teacher before going on.

Challenge: Solve each problem.

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Example 3: Science Teacher
Suburban High School

CONCERN: Mainstreamed students (as well as some other students) lacked knowledge of certain prerequisite skills for this science course.

SPECIFIC CONCERN: Many students would enter the course without having mastered certain general science concepts that should have been learned in previous science courses. Also, they lacked specific math skills needed for solving formulas.

VARIOUS ACTIONS IDENTIFIED:

- Have the guidance department screen out any students who did not satisfactorily accomplish prerequisite skills.
- Inform the middle school that students are not being prepared for the course.
- Develop a pretest to give in the opening days of school to survey the skill attainment of students entering the course.

ACTION SELECTED: The teacher decided to develop a pretest of the prerequisite skills and to prepare instructional packets to teach and reinforce these skills.

ACTION IMPLEMENTED:

As a first step, the teacher identified 20 basic science concepts and 20 math computations. A test item for each skill was then developed. The test items were arranged into a pretest. Since the test was to be administered to all sections of the teacher's course (140 students in all), the problem of managing this much data was addressed. The special educator proposed an answer sheet designed to provide direct assignment of specific learning packets for remediation of any skills in which a particular student was deficient.

RESULTS:

The survey test provided the teacher with a profile of every class. With this information, the teacher was able to plan instruction to meet the variable needs of each specific class. When remediation of certain skills was needed by individual students, they were assigned the pertinent learning packets. In some instances, the mainstreamed students were given the learning packets prior to placement in this class, so they would be better prepared to succeed.

This material proved to be so useful and practical that it is now used by the entire science department for this course. Other local high schools have also adopted this material for their use.

▶ TURN TO THE NEXT SEVERAL PAGES TO SEE SAMPLE OF THE SURVEY TEST AND DATA MANAGEMENT SHEET.

Sample page from skills survey test developed for science course.

WISSAHICKON HIGH SCHOOL

Name_____

Date_____

Period_____

Chemistry PreTest

Part 2

Select the best answer from the choices given:

13. Which of the following is not a state of matter?
    a) solid
    b) crystal
    c) liquid
    d) gas

14. Which of the following is a hazardous chemical?
    a) sodium chloride
    b) sulfuric acid
    c) glucose
    d) sucrose

15. Which of the following is not a symbol of an element?
    a) N
    b) H
    c) C
    d) O

16. Radiant energy may be recognized in many forms. Which is not a form of radiant energy?
    a) sound waves
    b) light waves
    c) x-rays
    d) radio waves

17. Given the following equation:
    $2Na + 2H_2O \longrightarrow 2NaOH + H_2 + heat$
    which substance(s) represent the reactants?
    a) NaOH and H_2
    b) Na and H_2O
    c) NaOH only
    d) heat

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Sample page from skills survey test developed for science course.

Chemistry PreTest (Continued)
Part 2 (Cont'd.)

18. The weight of an object
    a) is a force
    b) is a variable
    c) is both a force and variable
    d) is neither a force nor a variable

19. Which is not a solution?
    a) dry concrete
    b) sugar water
    c) air
    d) alcohol and water

20. Which property listed below is not a physical property?
    a) color
    b) size
    c) shape
    d) reactivity

21. If an atom has 7 protons (+), 7 electrons (-), and 7 neutrons (0), what is the overall charge on the atom?
    a) 0
    b) +7
    c) +14
    d) +21

22. Which is a proper formula?
    a) $Al^{+3}Cl^{-1}$
    b) $Al_2^{+3}Cl^{-1}$
    c) $Al^{+3}Cl_3^{-1}$
    d) $Al_2^{+3}Cl_3^{-1}$

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Sample page from sheets used to manage test data and assignments.

Date_____ Score_____

Period_____

Part 1: Basic Math

question #	item description	complete review packet(s)	due date	received	evaluation
1._____	multiply w/zero				
2._____	divide w/zero				
3._____	fraction to decimal				
4._____	multiply fractions				
5._____	algebraic addition				
6._____	solve equation				
7._____	multiply decimals				
8._____	divide decimals				
9._____	reading problem				
10._____	length comparison				
11._____	volume comparison				
12._____	mass comparison				

Score - Part 1:

Part 2: Basic Chemistry

13._____	phase of matter				
14._____	hazardous chemical				
15._____	symbol of element				
16._____	radiant energy				
17._____	reactants - equation				
18._____	weight - mass				
19._____	solution - mixture				
20._____	physical property				
21._____	+, -, neutral				
22._____	simple formula				
23._____	parts of atom				
24._____	graph interpretation				

Score - Part 2:

Example 4: Art Teacher
Suburban High School

CONCERN: Certain mainstreamed students couldn't seem to learn the vocabulary words used in a ceramics class.

SPECIFIC CONCERN: The mainstreamed students having difficulty learning the unfamiliar vocabulary were penalized in two ways. They were unable to satisfactorily perform projects because they could not follow instructions that used these words. Also, they were failing vocabulary tests given twice a semester.

VARIOUS ACTIONS IDENTIFIED:

- Have extra demonstrations and vocabulary lessons for students after school.
- Have the special education staff teach the vocabulary in the resource room.
- Reorganize vocabulary list and develop "easier to read" definitions.

ACTION SELECTED: The art teacher chose to revise the vocabulary lists.

ACTION IMPLEMENTED: The art teacher reorganized the vocabulary lists with assistance from the special educator. Clearer definitions were written. Pictures to illustrate each word were cut out of various magazines and mounted next to each vocabulary word to serve as a visual clue. Worksheets were developed to provide practice in using the vocabulary words.

RESULTS: The recently completed materials will be introduced in the coming school year. It is expected that the mainstreamed students' performance will improve as they learn the vocabulary through working with these materials.

▶ TURN TO THE NEXT SEVERAL PAGES OF THIS GUIDE TO SEE SAMPLE PAGES OF ILLUSTRATED VOCABULARY LISTS.

Sample page from the illustrated vocabulary list developed for ceramics course.

CERAMICS—DEFINITIONS
Page 3

slip -- liquid clay.
-- used as potter's clay for joining pieces together.
-- can be used to decorate.
-- used in "slipcasting" by pouring into molds to make forms.

wedging -- act of pressing or kneading clay with fingers and heel of hands in a rocking motion.
-- used to force air bubbles out of the clay.
-- wedging gives the clay a smooth consistency.

plasticity -- the ability of clay to be worked and reshaped without cracking.
-- some clays are more pliable than others.

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Example 5: Driver Education Teacher
Rural High School

CONCERN:	Mainstreamed students had difficulty reading and learning course material.
SPECIFIC CONCERN:	Certain mainstreamed students were failing the written portion of the driver's test. The driving laws and safety instructions written in the Pennsylvania Manual for Drivers were somewhat difficult to read.
VARIOUS ACTIONS IDENTIFIED:	Rewrite the manual using clearer language and more illustrations to demonstrate various traffic laws and safety precautions.
ACTION SELECTED:	Revising the manual was the only action considered in this case.

ACTION IMPLEMENTED: The driver education teacher located or created additional illustrations and wrote a first draft of the revision. This was given to the special educator to review and edit as needed. The driver education teacher checked the final draft to see that it was consistent with all laws and instructions mandated by the Bureau of Traffic Safety.

RESULTS: The Revised Driver's Manual offers an improved study guide for students who find the state manual too difficult to read and understand. If further help is needed, the revised manual can be used as resource material by a tutor engaged in helping a student pass the driver's test.

The recently completed manual will be introduced this coming school year.

▶ TURN TO THE NEXT SEVERAL PAGES TO SEE SAMPLE PAGES FROM THE ORIGINAL STATE MANUAL AND THE TEACHER-MADE REVISION.

HOW TO GET A LICENSE

The Types Of Licenses

If you drive a motor vehicle on Pennsylvania streets and highways, you must have a valid driver's license.

There are six classes of driver's licenses in Pennsylvania. The class of license you need depends on what type of vehicle you plan to drive. You must indicate the class of license you want when you apply for your license. The six classes are as follows:

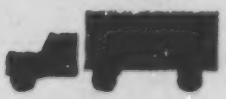
Class 1
(Minimum Age 16)

A class 1 license will be issued to those persons who are qualified to operate a single vehicle not in excess of 30,000 lbs. registered gross weight or any such vehicle towing a trailer not in excess of 10,000 lbs. gross weight. Any fireman who holds a class 1 license and obtains written authorization from his firechief is permitted to operate any vehicle registered to the fire department without having to obtain any other class of license. The holder of a class 1 license is authorized to drive a motorized pedal cycle.

Class 2
(Minimum Age 18)

A class 2 license will be issued to those persons who are qualified to operate a single vehicle over 30,000 lbs. registered gross weight or any bus or any such vehicle towing a trailer not in excess of 10,000 lbs. gross weight. Class 2 will include class 1.

Class 3
(Minimum Age 18)



A class 3 license will be issued to those persons who are qualified to operate a vehicle while in combination with or towing a trailer in excess of ,10,000 lbs. gross weight. Class 3 will include class 1 and 2.

Class 4
(Minimum Age 18)

A class 4 license will be issued to those persons who have demonstrated their qualifications to operate a school bus.

Class 5
(Minimum Age 16)

A class 5 license will be issued to those persons who have demonstrated their qualifications to operate a motorcycle. Class 5 will include class 6.

Class 6
(Minimum Age 16)

A class 6 license will be issued to those persons who are qualified to operate a motordriven cycle or motorized pedalcycle (motorcycles with less than 5 horsepower).

Who Needs A Pennsylvania License?

- Residents of the Commonwealth who are at least 16 years of age and want to drive a motor vehicle.
- New residents of Pennsylvania, even if they hold a valid driver's license from another state. New residents must obtain a Pennsylvania driver's license within 30 days after establishing residency.
- Pennsylvania residents in the United States Armed Forces. Servicemen and women who are stationed in Pennsylvania, including the reserve components, must obtain a license to operate a nonmilitary vehicle.

Who Does Not Need A Pennsylvania License?

- Non-residents who are at least 16 years of age and have a valid license from their state.
- Employees of the federal government operating a federally

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Sample page from the revised driver manual.

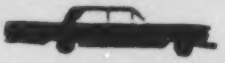
HOW TO GET A LICENSE

LICENSE TYPES

You may not drive on Pennsylvania streets and highways without a license.

You will find listed below the six classes of licenses and the limitations of those licenses:

CLASS 1



(a) You must be at least 16 years old.

(b) The vehicle may not weigh more than 30,000 pounds.

(c) You may tow a trailer that does not weigh more than 10,000 pounds.

(d) You may drive a moped (motorized pedal cycle).

(e) A Fire Chief may give written permission for you to operate a fire department vehicle.

CLASS 2

(a) You must be 18 years old.

(b) The vehicle may weigh more than 30,000 pounds.

(c) You may tow a trailer that does not weigh more than 10,000 pounds.

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Sample page from the revised driver manual.

HOW TO GET A LICENSE (CONTINUED)

LICENSE TYPES (Cont'd.)

CLASS 3

(a) You must be 18 years old.

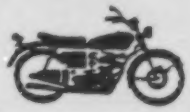
(b) You may tow a trailer more than 10,000 pounds.

CLASS 4

(a) You must be 18 years old.

(b) You may operate a school bus.

CLASS 5



(a) You must be 16 years old.

(b) You may operate a motorcycle.

Sample page from the revised driver manual.

HOW TO GET A LICENSE (CONTINUED)

LICENSE TYPES (Cont'd.)

CLASS 6

(a) You must be 16 years old.

(b) You may only operate a moped with less than 5 horsepower.

WHO NEEDS A PENNSYLVANIA LICENSE

—RESIDENTS OF PENNSYLVANIA who are 16 years old and want to drive.

—NEW RESIDENTS OF PENNSYLVANIA who have a license from another state have 30 days to get their Pennsylvania license.

—MEMBERS OF THE MILITARY stationed in Pennsylvania if they want to drive a nonmilitary vehicle.

WHO DOES NOT NEED A PENNSYLVANIA LICENSE?

—VISITORS in Pennsylvania who are at least 16 years old and have a license from their home state.

—FEDERAL GOVERNMENT EMPLOYEES who are operating a government vehicle.

—MEMBERS OF THE MILITARY who have a military driver's license and who are driving a military vehicle.

WHO CANNOT BE LICENSED IN PENNSYLVANIA?

—A person under 16.

—A person whose license has been suspended.

—A person who cannot drive safely due to a health problem.

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Example 6: Social Studies Teacher
Rural High School

CONCERN: Mainstreamed students (and certain other students) lacked geography skills.

SPECIFIC CONCERN: The course content was World Cultures. Each year several students (including some mainstreamed students) would enter the course without some of the prerequisite geography skills. Most of the instructional time was needed to cover the World Cultures content and there was relatively little time available to teach basic geography. Some method had to be developed to provide instruction in basic geography skills.

VARIOUS ACTIONS IDENTIFIED:

- Teach all geography skills to all students and reduce the amount covered on the major topic of World Cultures.
- Develop a way to identify individual skill deficits and provide instruction to meet the needs of specific students.
- Request the district to reinstate a geography course at the Middle School. (A geography course had been dropped from the curriculum several years earlier.)

ACTION SELECTED: The teacher decided to develop a survey test of geography skills and to identify assignments from various workbooks for remedial work.

ACTION IMPLEMENTED: As a preliminary step, the teacher identified 23 general skill areas and 100 specific geography skills. Next, a test item for each skill was developed. These were then arranged into a two-part survey test designed to be administered in two class periods. A final major effort was then undertaken by the teacher and the special educator. Specific resource material was found that matched each skill. This material served as the basis of remediation, either as independent homework assignments or as content for teacher-assisted instruction. The special education resource teacher assisted mainstreamed students with these assignments whenever help was needed. Other students were helped by parents, a tutor, or the teacher at some time outside the class period.

RESULTS: The survey test provided the teacher with a profile of every class. With this information, the teacher was able to identify certain skills that were needed by many in a given class and to plan group instruction directed at these skills. Skill deficits specific to only a few students were addressed through individualized assignments.

▶ TURN TO THE NEXT SEVERAL PAGES TO SEE A SAMPLE OF THE SURVEY TEST AND ASSIGNMENT MONITOR SHEETS.

Sample page from test developed by teacher to survey geography skills.

METHACTON SENIOR HIGH SCHOOL

Social Studies Department

WORLD CULTURES

Basic Geography Pretest

Part 1

Select the best answer from the choices given. Find the number on your answer sheet and darken the space of the letter that corresponds with the right answer.

1. The type of map one is using can be determined by the symbols found in the:
   a) scale
   b) key
   c) compass
   d) title

2. The type of map that shows the elevation of land and depth of water by various colors is called a/an:
   a) political map
   b) physical map
   c) outline map
   d) economic map

3. The type of map that shows the boundaries of countries, states, or provinces by various colors or boundary lines is called a/an:
   a) political map
   b) physical map
   c) outline map
   d) economic map

4. To find out how far it is from one city to another city on a map, a person would need to use a/an:
   a) compass
   b) index
   c) scale
   d) title

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Sample page from test developed by teacher to survey geography skills.

Basic Geography Pretest (continued)
Part 1 (cont'd.)

5. When using a map, the scale will usually be found:
   a) on the back
   b) in the key
   c) at the top
   d) on the side

6. Most maps are made with what direction at the top?
   a) North
   b) East
   c) West
   d) South

7. If one has a problem determining directions on a map, one should look for a/an:
   a) key
   b) compass
   c) scale
   d) index

8. Imaginary lines on maps and globes help us locate places North and South of the equator, and are called:
   a) meridian
   b) latitude
   c) longitude
   d) outline

9. Lines that help us locate places on maps and globes East and West of the prime meridian are called:
   a) parallels
   b) latitude
   c) longitude
   d) straight

10. Another name for a Key is:
   a) compass
   b) scale
   c) index
   d) legend

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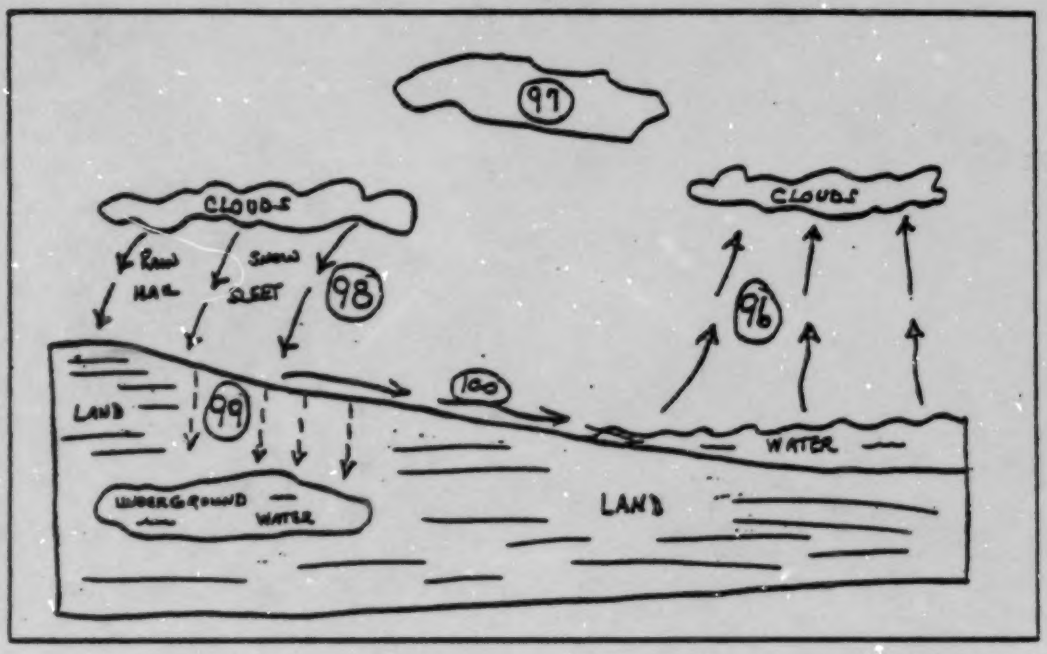
Sample page from test developed by teacher to survey geography skills.

P-17

VISUAL D

WATER CYCLE



Find the numbers 96 - 100 on Visual D, "WATER CYCLE". Then match the number with the function of the water cycle listed below. Darken the space of the letter on your answer sheet that matches the correct answer.

96.	a) precipitation
97.	b) evaporation
98.	c) seepage
99.	d) condensation
100.	e) run off

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Sample page from sheets used to monitor individual *assignments.*

Name_____

Date_____

Mod_____ Subject_____

Individual Monitoring Form
Basic Geography Skills

I. Map Skills

Ques. #	Item Description	Dates & Instructional Packet Assigned	Due Date	Date Rec'd.	Eval.
1	Key				
2	Types of Mac				
3	" " "				
4	Scale				
5	"				
6	Compass				
7	"				
8	Longitude & Latitude				
9	" "				
10	Key				
70	Types of Maps				
71	" " "				
72	Scale				
73	Compass				
74	Longitude & Latitude				
75	" "				
76	" "				

II. Globe Skills

11	Land Surface				
12	" "				
13	Oceans & Continents				
14	" "				
15	Sunlines				
16	"				
17	"				
18	Hemispheres				
19	"				
20	Sunlines				

Example 7: English Teacher
Suburban High School

CONCERN: Mainstreamed students (and other students in general) had difficulty writing compositions.

SPECIFIC CONCERN: Many students were unable to write a satisfactory composition due to inadequate grammar skills and inability to organize thoughts into written expression. Some method had to be found to incorporate instruction of these skills into a literature course.

VARIOUS ACTIONS IDENTIFIED:

- Develop a skills survey test and locate instructional worksheets to review skills found deficient.
- Develop learning packets designed to teach or reinforce grammar skills and written expression using content from literature course.
- Seek district approval to require all students to pass a basic grammar exam prior to being permitted to take this literature course.

ACTION SELECTED: The teacher chose the second option to develop learning packets using content from an anthology used in the literature course.

ACTION IMPLEMENTED: The special educator researched the instructional areas of concern. Resource materials for grammar instruction and written expression were provided to the teacher. An interesting approach for developing composition skills was found in an "English As A Second Language" textbook. With these materials in hand, the regular teacher developed learning packets based on the content of a selected anthology used in the literature course.

RESULTS: The instructional packets have given this literature teacher a way to provide instruction in grammar and written expression. This material will be utilized in the coming school year.

▶ TURN TO THE NEXT SEVERAL PAGES TO SEE SAMPLE PACKETS.

Sample page from learning packets developed to teach or reinforce grammar and written expression.

Worksheet 1
Literature And Society
"A Few Minutes With Andy Rooney"

Student Name_____
Section_____
Date_____

LESSON: USING THE PROPER LINKING VERB

Linking verbs connect subjects (nouns and pronouns) to other nouns, pronouns, or adjectives because the two items are equal or appear to be equal.

For example, in the sentence The car is a Cougar, since car and Cougar are the same you use a linking verb: is.

Other examples:

The girl seems happy. (adjective)
The stereo is a Sony. (noun)
That book is the one. (pronoun)

Samples of linking verbs include the following: to be, to feel, to seem, to appear. Look at these examples:

1. John seems angry.
2. The Petersons appear friendly.
3. Linking verbs are easy.

Time is stated by the verbs (present, past, and future). When you write an essay, try to keep all of the verbs in the same time zone.

Look at this example. The verbs are underlined. Notice that the verbs are all in the same present time zone.

The author's name is John Doe. He is writing about childhood. When he sees children playing baseball, he remembers learning to play the game himself.

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Sample page from learning packets developed to teach or reinforce grammar and written expression.

Worksheet 1
Page 2

ASSIGNMENT 1: USING THE PROPER LINKING VERB.

Supply the proper linking verbs in the spaces provided. REMEMBER that singular and plural verbs sometimes have different forms. Also, watch the time zone being used by the writer.

ON THE HOUSE*

One of the most popular topics of conversation for homeowners _____ how much more their houses _____ worth now than when they bought them. It _____ a very dull topic and it _____ silly because we all know that if you sell a house for twice what you paid, you buy another for twice what someone else paid for that one. If you don't sell your house, it doesn't make any difference how much it _____ worth to anyone but you anyway, and not selling your house always _____ to make more sense to me.

There _____ 218 million people in the United States and 40 million houses for them to buy. There _____ as many different kinds of houses as there _____ different kinds of people: new houses, old houses, wooden houses, stone houses, brick houses, wonderfully substantial-looking houses, and houses that blow away in the wind, houses all together in a row and houses all by themselves out in the middle of miles and miles of no-other-houses.

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*Source: "A Few Minutes with Andy Rooney," p. 83.

Sample page from learning packets developed to teach or reinforce grammar and written expression.

Worksheet 2 Student Name_____
Literature And Society Section_____
"A Few Minutes With Andy Rooney" Date_____

LESSON: PREMISES AND CONCLUSIONS

A premise is an idea that the author presents as true. It is an idea that introduces an argument. The point that the author wants to make is built on the premise.

A conclusion is the result of an argument based on two or more premises. It is the logical result when certain ideas are thought to be or shown to be true.

ASSIGNMENT 3: PREMISES AND CONCLUSIONS

Read these three paragraphs and answer yes or no to the questions below. BE SURE TO USE COMPLETE SENTENCES IN YOUR ANSWERS.

Here is an example of a complete answer:

1. Is John Doe from Texas?
Answer: No, John Doe is from California.
or No, John Doe is not from Texas. He is from California.

Most towns have one funny-looking house. Everyone laughs at it, but the people who live in it like it. Then there's the big house, owned by the rich grouch or by the widow of the man who owned the mill; the stately and beautiful home that everyone dreams of living in; the house that's just a little too obviously the product of a young architect's imagination.

Houses come in a variety of shapes, too. There are square houses, round houses, six-sided houses. There are even some eight-sided houses. A geodesic house is all sides and an igloo has none. Some houses are tall, some are short. There are houses that look like mushrooms and houses built like arches.

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Sample page from learning packets developed to teach or reinforce grammar and written expression.

Worksheet 2
Page 2

Assignment 3: (Continued)

There are permanent little villages of comfortable homes nestled in the valleys across the country and contagious outbreaks of immobile mobile homes that pock the face of the landscape. If they're mobile, why don't they go?

REMEMBER TO USE COMPLETE SENTENCES IN YOUR ANSWERS.

1. "Most towns have one funny-looking house." Is this a premise?

2. "Everyone laughs at it"... Is this a conclusion?

3. "...but the people who live in it like it." Is this a conclusion?

4. Concerning the "one big house" in each town, are there five separate premises associated with it?

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Example 8: Health Teacher
Rural High School

CONCERN: This teacher was assigned to teach a new course--"Nutrition and Fitness" to classes grouped heterogenerously.

SPECIFIC CONCERN: Each class contained students whose abilities ranged the spectrum: bright, gifted youngsters, underachievers, average students, and mainstreamed students with learning difficulties. Since it was the first time the course was offered, new materials had to be found and/or created. It was preferred that the materials be activity oriented, pertinent to life experiences, and multi-level.

VARIOUS ACTIONS IDENTIFIED:

- Locate instructional materials that meet the preferred criteria.
- Develop materials.

ACTION SELECTED: Since the published materials did not completely match all the criteria set by the teacher, it was decided to draw on various resources and develop teacher-made units of instruction.

ACTION IMPLEMENTED: The teacher collected instructional materials from various sources. The special educator provided additional materials. In consultation with the special educator, the health teacher developed several units. These packets included open-ended assignments designed to challenge students achieving at different levels.

RESULTS: The teacher-made materials are suitable for use with students functioning at various levels of ability. The materials are interesting and practical. Mainstreamed students are expected to perform well with these materials when they are introduced in the coming school year.

▶ TURN TO THE NEXT SEVERAL PAGES OF THIS GUIDE TO SEE A SAMPLE UNIT.

Sample page from: Nutrition and Fitness
- a learning packet developed by the teacher.

UNIT I

An Application to Daily Life

What's really in the foods and beverages you consume every day?

Do you know what you're eating?

And what are these substances doing for/or to your body?

See if you can match these common foods with their characteristics. Place the correct letters on the lines provided.

a. a hamburger

b. a head of lettuce

c. a glass of cola

d. a dish of spinach

e. a plate of spaghetti

1. ___ This has no protein, no vitamins, and no minerals.

2. ___ This will give you energy for that race tomorrow.

3. ___ Believe it or not, this is composed almost entirely of water.

4. ___ This may contribute to hardening of the arteries.

5. ___ This will provide the calcium your teeth and bones need.

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Sample page from: Nutrition and Fitness
- a learning packet developed by the teacher.

UNIT I

Study Sheet — The Big and Little of Food

Write in the space provided your own definition of what you think the word nutrition means.

Nutrition is _____

_____

_____

Answer the following questions with a Yes or No:

1. Feeling weak all the time? _____
2. Does every job task seem too hard? _____
3. Is even getting out of bed too hard? _____
4. Feeling bored? _____
5. Does it seem hard to pay attention to your school work? _____
6. Or do you forget things easily? _____
7. Feeling cold? _____

If you answered yes to some of the above questions, your body might not be getting enough nutrition.

The big thing about food is that your body needs many kinds of foods to get energy. When you eat, your body breaks the food into little parts and uses them up. The little parts it uses are nutrients. Some of these nutrients are full of energy.

Nutrients are things your body needs but can't make by itself. You can eat a lot of food but still not get the nutrients you need. There are five kinds of nutrients. Bodies need nutrients from all five groups. Most foods are made of at least one group of nutrients. Many foods have nutrients from more than one group.

DO YOU KNOW WHAT THE FIVE NUTRIENT GROUPS ARE?

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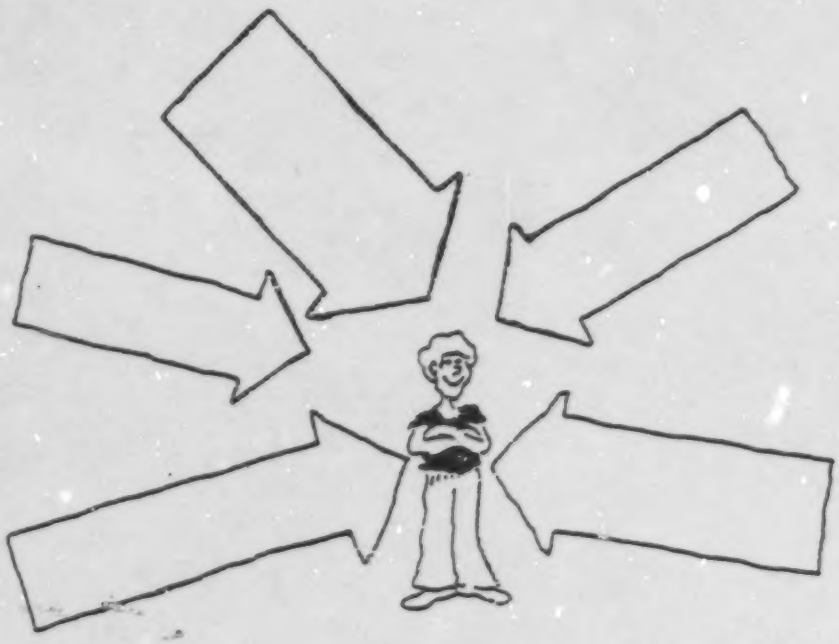
Sample page from: Nutrition and Fitness
- a learning packet developed by the teacher.

Unit I

Study Sheet — The Big and Little of Food (Continued)

Take a minute to fill in the five nutrient groups that your body needs—one in each arrow.



Nutrients are essential to the body to perform one of the following functions:

a) _____

b) _____

d) _____

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UNIT I

Nutrient Fact Sheet

Each nutrient has specific uses in the body. For the healthy individual the nutrients needed by the body are usually available through food.

Nutrient	Sources/Foods	Important Function
Protein		
Carbohydrates		
Fat		
Vitamin A		
Vitamin C (Ascorbic Acid)		
Thiamin (B_1)		

Sample page from: Nutrition and Fitness - a learning packet developed by the teacher.

Sample page of material collected by the health teacher for inclusion in packets.

UNIT I

Nutritional Content* of Popular Fast Foods

Item	Calories	Protein (grams)	Carbo-hydrates (grams)	Fat (grams)	Sodium (milligrams)
HAMBURGERS					
Burger King Whopper	606	29	51	32	909
McDonald's Big Mac	541	26	39	31	962
Burger Chef Hamburger	258	11	24	13	393
FISH					
Arthur Treacher's Fish Sandwich	440	16	39	24	836
Burger King Whaler	486	18	64	46	735
McDonald's Filet-O-Fish	402	15	34	23	709
Long John Silver's Fish (2 pieces)	318	19	19	19	N.A.
CHICKEN					
Kentucky Fried Original Dinner	830	52	56	46	2285
Kentucky Fried Crispy Dinner	950	52	63	54	1915
OTHER ENTREES					
Pizza Hut Thin 'N Crispy Cheese Pizza (half of 10-inch pie)	450	25	54	15	N.A.
Pizza Hut Thick 'N Chewy Pepperoni Pizza (half of 10-inch pie)	560	31	68	18	N.A.
McDonald's Egg McMuffin	352	18	26	20	944
Taco Bell Taco	186	15	14	8	79
Dairy Queen Brazier Dog	273	11	23	15	868
SIDE DISHES					
Burger King French Fries	214	3	28	10	5
Arthur Treacher's Cole Slaw	123	1	11	8	266
Dairy Queen Onion Rings	300	6	33	17	N.A.
Burger King Vanilla Shake	332	11	50	11	159
McDonald's Chocolate Shake	364	11	60	9	329
McDonald's Apple Pie	300	2	31	19	414

*Data Supplied by Companies
N.A.=Not available.

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Sample page of material collected by the health teacher for inclusion in packets.

UNIT I

"Nutrition Wise"

Nutrition Labeling Fact Sheet

Why read labels?_____

_____

Nutritional labeling is..._____

_____

What's on the label?

1. _____
2. _____
3. _____
4. _____
5. _____

Example of: Nutrition Information

NUTRITION INFORMATION
(per serving)

Serving Size=1 cup
Servings per Container=2

Calories	110
Protein	1 Gram
Carbohydrate	25 Grams
Fat	1 Gram
Sodium (970mg/100gm)	275 milligrams

Percentage of U.S. Recommended Daily Allowances (U.S. RDA)

Protein	2
Vitamin A	25
Vitamin C	25
Thiamine	25
Riboflavin	25
Niacin	25
Calcium	4
Iron	4

Source: Amer. Heart Assoc., "Nutrition Labeling," National Center, 7320 Greenville Ave., Dallas, TX 75231.

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Example 9: Biology Teacher
Suburban High School

CONCERN: Mainstreamed students had difficulty reading and studying the textbook and difficulty taking notes from lectures.

SPECIFIC CONCERN: Many mainstreamed students were failing tests. They were having trouble studying for the tests for two reasons. Their notes from classroom lectures were not complete and they had a problem learning the content of a textbook chapter. Similar problems were evident with some of the "regular" students.

VARIOUS ACTIONS IDENTIFIED:

- Develop outlines for all lectures and distribute to students having trouble.
- Request that only special education students who can perform the work be placed in biology.
- Develop worksheets that use a guided reading approach similar to programmed learning techniques.

ACTION SELECTED: The option to develop programmed learning materials was chosen by the teacher. It was decided that this technique would be piloted with one chapter to determine whether the approach would be effective.

ACTION IMPLEMENTED: A particularly difficult chapter on cell environment was selected as the content for a pilot of this approach. The biology teacher re-wrote passages from the chapter using clear language and highlighting the more essential concepts. The content was organized into several sections. A companion worksheet was developed for each section. The worksheets guided the students' reading and provided frequent comprehension checks. The final product represents the efforts of the biology teacher with some minor editing assistance from the special educator.

RESULTS: The newly developed learning materials were given to the entire class with some expected and some surprising results. It was expected that achievement would increase, and it did. The test covering this content yielded many scores above 90%. The effect was to increase the class average grade from 75% to 83%. But what was unexpected was the impact this material had on the class atmosphere. The teacher reported a noticeable improvement in the attitude of students during the week that this was piloted. The students came to class happier and more confident and seemed to really enjoy the change in teaching approach. A carry over was seen even into the next chapter which was taught the traditional way. The teacher has decided to expand additional chapters with this approach.

▶ TURN TO THE NEXT SEVERAL PAGES TO SEE SAMPLES OF THE GUIDED READING MATERIALS.

Sample page from revised biology material.

Chapter V

The Cell and Its Environment

I. Introduction

A. Homeostasis

All organisms face constantly changing conditions, both within themselves and in their environment. To survive, an organism must adjust constantly to these changing conditions. These adjustments keep a state of balance between life activities and the conditions that affect them. This balance or steady state is called homeostasis. An organism maintains homeostasis by making self-regulating adjustments.

B. Examples of Homeostatic Activities

Some examples of self-regulating homeostatic activities carried on at different levels are:

(1) A frog escaping the cold of winter and heat of summer by burying itself in mud beneath a pond;

(2) People adjusting to winter and summer by the clothes they wear and how they heat or cool their home;

(3) Heart action changing as body needs change—exercise vs. resting, [illegible];

(4) Life on the desert—becoming desolate (deserted) under the boiling sun but showing much activity at night;

(5) One kidney enlarging when the other becomes sick or is destroyed;

(6) A weakened heart becoming enlarged.

Note: Hibernation refers to spending the winter months in an inactive condition while estivation refers to a period of summer inactivity.

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Sample page from revised biology material.

C. Consequences of the Optimum Environment Provided for by Homeostatic Regulation

The balance or steady state produced by homeostatic activity leads to an almost perfect environment for the cells. This optimum environment allows the cells to become specialists at certain jobs (cell specialization) since survival problems are minimized. Nerve cells, for example, are specialists at carrying impulses, while blood cells are specialized for transporting food and oxygen. As cells become more specialized they depend more on the ideal environment. They depend more on each other for their needs (cell dependence) much as a builder must rely on a farmer to provide him with food and a farmer must rely on a builder to provide his home and barn. This cell dependence makes individual cells less able to live alone without other cells helping to provide their needs. They can no longer adapt well on their own. The cells lose adaptability.

It should be mentioned, that although individual cells lose adaptability as a result of cell specialization, the cells as a group, gain adaptability. The organism as a whole gains adaptability. It's like the old story "together we are strong."

In summary then:

Homeostasis provides for an optimum environment which allows for cell specialization, which leads to cell dependence, which results in loss of adaptability by individual cells.

▶ ASSIGNMENT: Do Worksheet pages 1 and 2.

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Sample page from revised biology material.

Worksheet - pg. 1

Chapter V

The Cell and Its Environment

WORKSHEET

I. Introduction

A. Homeostasis:

All organisms face constantly _____, both within themselves and in their environment. To survive, an organism must _____ constantly to these changing conditions thereby keeping a state of _____ between its life activities and the conditions that affect them. This balance or steady state that an organism maintains by self-regulating adjustments is called_____ _____.

- Homeostasis = balance or steady state. T or F

B. Examples of Self-Regulating Homeostatic Activities Carried on at Different Levels:

1._____

_____

2._____

_____

3._____

_____

4._____

_____

5._____

_____

Sample page from revised biology material.

> **Note:** _____ refers to spending the winter months in an inactive condition, while _____ refers to a period of summer inactivity.

C. Consequences of the Optimum Environment Provided for by Homeostatic Regulation:

The optimum environment provided by homeostasis _____ → cell _____, which _____ → cell _____, which _____ → loss of _____ by individual cells.

An optimum environment allows for cell _____ since survival problems are minimized. With a high degree of specialization, the cells become more and more _____ on the ideal environmental conditions. In becoming more dependent on these ideal conditions the cells lose _____.

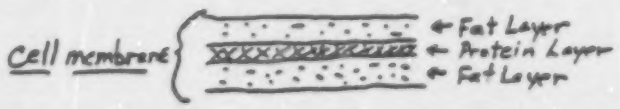
> **Note:** Although individual cells lose adaptability with cell specialization, the cells as a group (∴ the organism) _____ (loses/gains) adaptability.

Sample page from revised biology material.

II. How Cells Maintain Homeostasis

A. Cell Absorption—a prime factor in homeostasis

Material absorbed by the cell is very important in maintaining homeostasis. The cell membrane also called the plasma membrane or cytoplasmic membrane, plays an important role in the absorption process. The cell membrane is the molecular boundary of a cell consisting of a double layer of fat molecules embedded with protein molecules. It regulates the flow of materials (ions and molecules) into and out of the cell, having a great effect on which materials enter and leave the cell and the rate at which they do this. For example, some materials pass through the membrane rapidly, others slowly, and some not at all.



There are four factors which influence the rate of flow through the cell membrane. These are:

- The size of the particles—some large molecules have difficulty;
- The solubility of the particles in water—insoluble substance can't pass through;
- Conditions inside or outside the cell—such as concentrations of materials; and
- The structure of the plasma membrane itself.

Sample page from revised biology material.

A permeable membrane is one which allows substances to pass through it. A selectively permeable membrane is one which lets some substances pass through it more readily than others. The plasma membrane is a selectively permeable membrane.

Selectively permeable is also called differentially permeable or semi-permeable.

▶ ASSIGNMENT: Do Worksheet page 3.

Sample page from revised biology material.

Worksheet - pg. 3

II. How Cells Maintain Homeostasis

A. Cell Absorption—a prime factor in Homeostasis

1. The cell membrane also called the _____ or _____ is very important in absorption.

   a. The cell membrane is the molecular boundary of a cell consisting of a double layer of _____ molecules embedded with _____ molecules. It regulates the flow of materials (ions and molecules) into and out of the cell.

   b. The rate of movement of ions and molecules through the cell membrane _____. (varies/is the same for all)

2. Four factors which influence the rate of flow through the cell membrane are:

   1. _____
   2. _____
   3. _____
   4. _____

   • Substances which dissolve in water cannot pass through the plasma membrane. T or F

3. Terms:

   a. Permeable: _____

   _____

   b. Selectively Permeable: _____

   _____

Note: Selectively permeable is also called differentially permeable or semi-permeable.

• The plasma membrane is selectively permeable rather than permeable. T or F

Example 10: Biology Teacher
Rural High School

CONCERN: Mainstreamed students lacked familiarity with laboratory equipment and procedures.

SPECIFIC CONCERN: Many special education students were not enrolled in a laboratory science at the middle school. Often, these students' programs were concentrating on remedial reading and math while their peers were taking life science and earth science. As a result, these students are not as familiar as their peers with the equipment and procedures of a laboratory class.

VARIOUS ACTIONS IDENTIFIED

- Have the science department teach a course just to special education students that would familiarize them with the science lab.
- Excuse the mainstreamed student from participation in lab work.
- Develop supplemental instruction packets for these students to do prior to and in preparation for lab experiences.

ACTION SELECTED: This biology teacher decided to attemp the third option, to develop supplemental preparatory materials.

ACTION IMPLEMENTED: From experience, the biology teacher identified skills and concepts that had typically given problems to mainstreamed students. In collaboration with the special educator, the biology teacher developed learning materials that featured illustrations and provided step by step instructions for lab performance. The learning materials were organized into pre-lab activites, step by step lab procedures, and post-lab follow-up. Included was an emphasis on safety and clean-up procedures.

RESULTS: The recently completed materials will be utilized in the coming school year.

▶ TURN TO THE NEXT SEVERAL PAGES FOR A SAMPLE OF LEARNING PACKETS.

Sample page from pre-lab booklet.

THE MICROSCOPE

Pre-Lab Activity I

"Vocabulary"

The following words will be used in your lab sheets. When you see them in the lab they will have a box [ ] around them to help you remember that they are important.

Look up these words in your book and write what they mean. Your Resource Room teacher will help you.

Words to help you do the lab

- Focus: _____
- Magnify: _____
- Spectacles: _____
- Precision instrument: _____
- Invisible: _____
- Specimen: _____
- Readjust: _____
- Limitations: _____
- Delicate: _____

Sample page from pre-lab booklet.

THE MICROSCOPE

Pre-Lab Activity I

Vocabulary (Cont'd.)

- X's: _____
- Compound Microscope: _____

Parts of the microscope

- Lens (Lenses): _____
- Eyepiece: _____
- Nosepiece: _____
- Stage: _____
- Clips: _____
- Base: _____
- Arm: _____
- Tube (Cylinder): _____
- Light Adjustment (Diaphragm): _____

Sample page from pre-lab booklet.

THE MICROSCOPE

Pre-Lab Activity I

Vocabulary (Cont'd.)

- Fine Adjustment:_____

_____

- Coarse Adjustment:_____

_____

Sample page from pre-lab booklet.

THE MICROSCOPE

Pre-Lab Activity II

"How Can We See Better?"

Many years ago, the ancient Romans wanted to get a better look at the world they lived in. They wanted to see very small things more clearly. One man discovered that he could see very small letters better if he held a jar of water over them and look through the jar. He used the jar to magnify the print. Try this yourself and see how well it works. I think you will see that it has some limitations.

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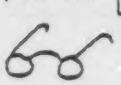
Sample page from pre-lab booklet.

THE MICROSCOPE (Continued)

"How Can We See Better?" (Cont'd.)

A little later on in the 11th century, lenses were invented in the Near East. These were curved on both sides and magnified things much better.

By the end of the 13th century, men learned to put two lenses together in a frame to make a pair of spectacles  . What do we call spectacles today? _____. People used these spectacles to help them read.

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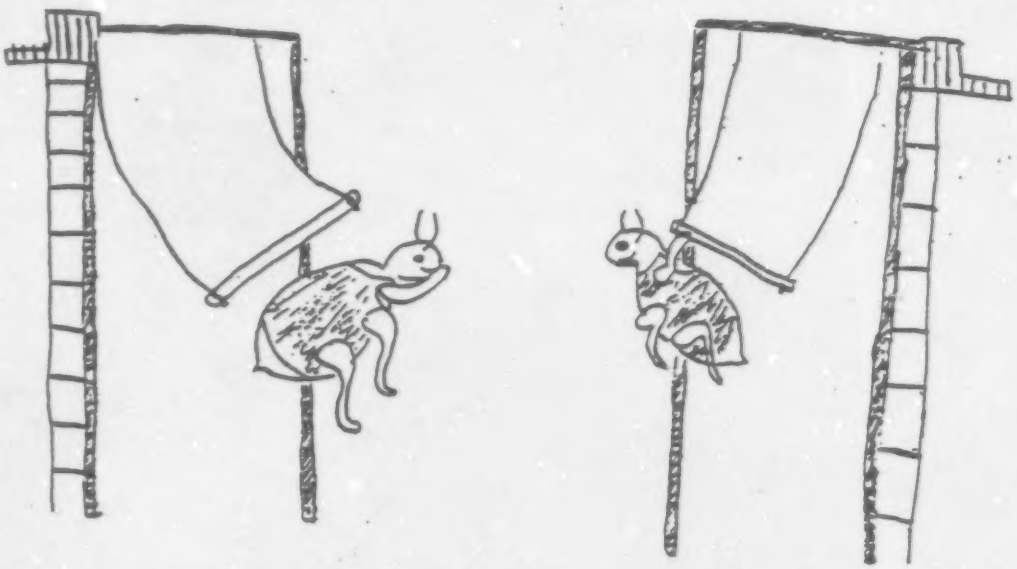
THE MICROSCOPE (Continued)

"How Can We See Better?"

In the 16th century, for entertainment, people used lenses to help them see a new kind of circus. The performers in these circuses were fleas that did tricks on tiny ropes, swings, and see-saws.



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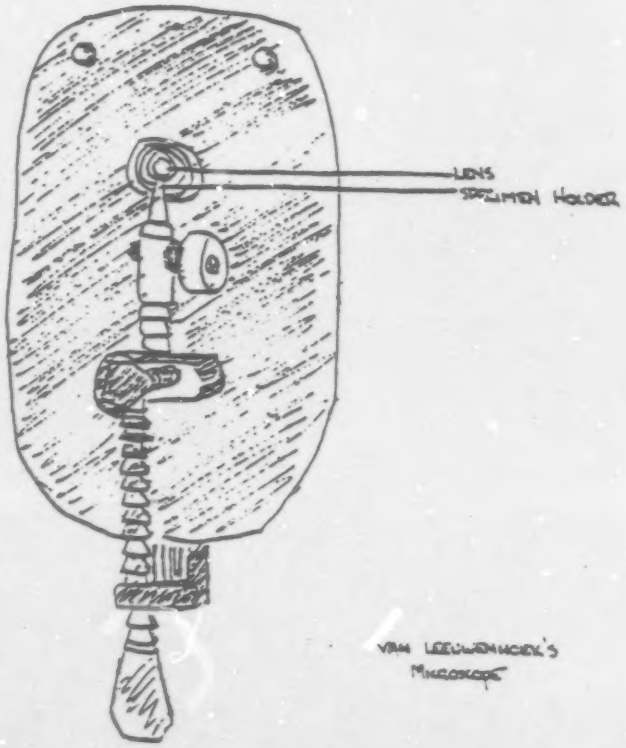
Sample page from pre-lab booklet.

THE MICROSCOPE (Continued)

"How Can We See Better?" (Cont'd.)

These flea circuses interested scientists too, and they began to want to see the invisible things that lived in drops of water. These scientists thought that if they put two lenses together they could see better. A man named Anton Van Leeuwenhoek did put two lenses together and called the invention the compound microscope. With this new tool, he could magnify things over 270 X's their normal size. (The "X's" means "times.")



VAN LEEUWENHOEK'S MICROSCOPE

Sample page from pre-lab booklet.

THE MICROSCOPE (Continued)

"How Can We See Better?"

Our microscopes today [magnify] many more than 270 [X's].

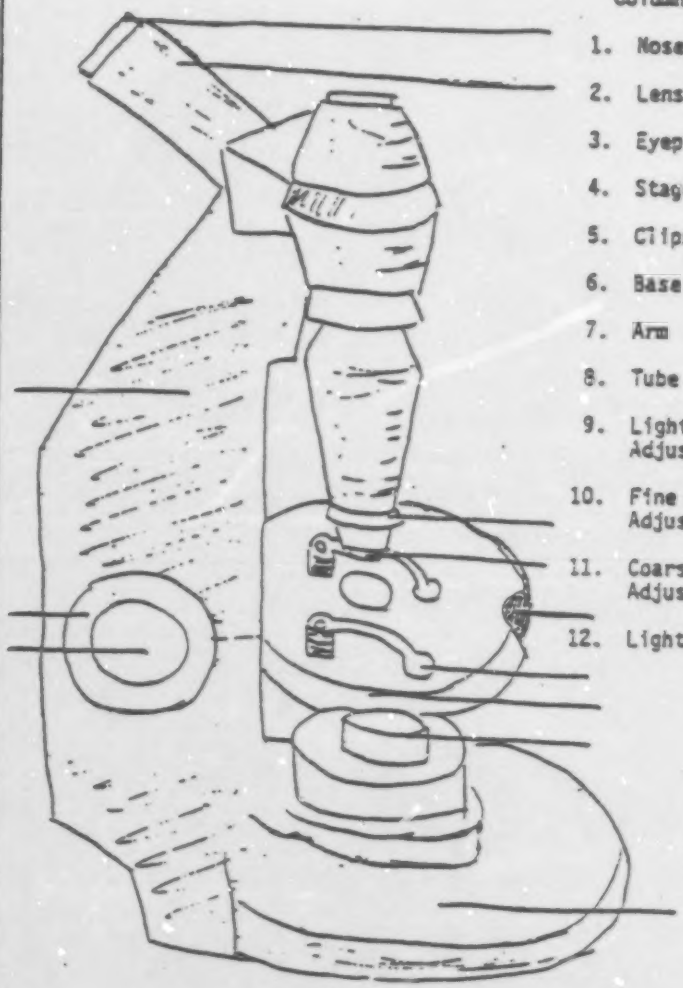
They are [precision instruments] that magnify 500 [X's] or more.

THE MICROSCOPE

Pre-Lab Activity III

"The Microscope"

Here is a drawing of the microscope. There are also two columns of words to go with the microscope. One column has the name of the parts in it and the other column has the job of each part in it. Place a number (the number of the correct part) and a letter (the letter showing the job of each part) in the space by each line on the drawing.



Column #1	Column #2
1. Nosepiece	A. Use this only on low power.
2. Lens	B. You look through this.
3. Eyepiece	C. These hold the slide on.
4. Stage	D. The microscope sits on this.
5. Clips	E. This turns the [lenses].
6. Base	F. Use this only on high power.
7. Arm	G. You carry the microscope by this.
8. Tube	H. The slide sits on this.
9. Light Adjustment	I. These [magnify] the [specimen].
10. Fine Adjustment	J. This controls light.
11. Coarse Adjustment	K. This separates the [eyepiece] from the [lenses] so that things will look clear.
12. Light	L. This shows light through [specimen].

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Sample page from pre-lab booklet.

THE MICROSCOPE

Pre-Lab Activity IV

"Do you Know How to Use the Microscope?"

Now that you know about the history of the microscope and about the parts of the microscope, you probably want to use one. Before you can use a microscope properly though, you must know some rules. Go over the rules below with your teacher and when the teacher is satisfied that you know them, you may begin the lab activity.

Check ✓ if you know these.

- ☐ 1. Always carry a microscope with two hands—one on the [base] and one on the [arm].
- ☐ 2. Clean the [lenses] with lens paper before starting.
- ☐ 3. [Focus] on low power with the [coarse adjustment] (large knob). Do this first.
- ☐ 4. [Focus] on high power with the [fine adjustment] (small knob).
- ☐ 5. Always focus "up."
- ☐ 6. Always put the microscope on low before you put it away.
- ☐ 7. Always put the dust cover on the microscope before you put it away.

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Sample page from lab activity booklet.

THE MICROSCOPE

Lab Activity — How Do You Use A Microscope?

Focus: In this activity you are going to learn to use a microscope. Because a microscope is a delicate piece of equipment, you must learn to handle it correctly. Follow the directions carefully and you will open up a whole new world. — The World of the Invisible.

Materials:

Check each of these things off as you get them.

Things to Get From the Teacher:

- ☐ 1 Slide
- ☐ 1 Cover Slip
- ☐ 1 Dropper Bottle Filled with Water
- ☐ 1 Pair of Scissors
- ☐ 1 Sheet of Newspaper
- ☐ 1 Booklet of Lens Paper

Things to Get From the Equipment Closet:

- ☐ 1 Compound Microscope

Instructions:

Check each task off as you finish it.

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Sample page from lab activity booklet.

THE MICROSCOPE

Lab Activity — How Do You Use A Microscope? (Cont'd.)

Getting the Microscope Ready:

☐ 1. Put the microscope flat on your lab desk.

☐ 2. Make sure that the microscope is on low power. The white line should be pointing to 100 like this [ ] 100. If it is not, change it by turning the nosepiece.

☐ 3. Wipe the eyepiece and the lens with lens paper. Be sure that you only use lens paper. Other papers will scratch the lenses.

Making a Wet Mount:

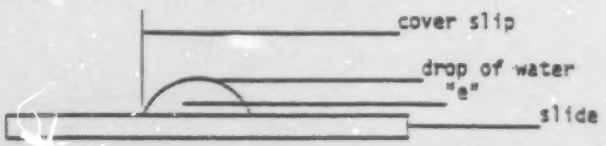
If you have all the tasks checked off so far, you are ready to make a slide. This slide is a special one called a wet mount. It is made when a dry object must be seen clearly. Check off each task as you finish it.

☐ 1. Put a drop of water from the dropper bottle on the slide.

☐ 2. Now use the scissors to cut out the smallest letter "e" you can find in the newspaper.

☐ 3. Put the letter "e" in the drop of water in normal reading position.

☐ 4. Now stand the cover slip up on one edge of the water drop like this:



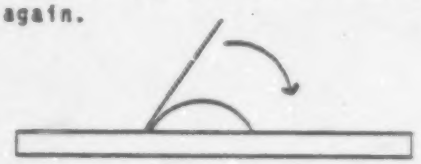
Sample page from lab activity booklet.

THE MICROSCOPE

Lab Activity — How Do You Use A Microscope? (Continued)

Making a Wet Mount (Cont'd.)

☐ 5. Let go of the cover slip and let it fall on the drop of water. Did you make any water bubbles? If you did, you might want to try again.



Looking at the Slide:

Now you are ready to look at the slide.

☐ 1. Turn on the [microscope] light.

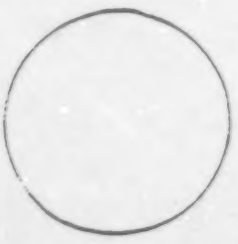
☐ 2. Put the slide on the [stage] so that the "e" is in reading position and is centered under the lens.

☐ 3. Carefully turn the [coarse Adjustment] knob until the lens is <u>almost</u> touching the slide.

☐ 4. Now look through the [eyepiece] and focus <u>Up</u> until the "e" is clear.

Can you see the whole "e"?_____

Draw what you see here.



Sample page from lab activity booklet.

THE MICROSCOPE

Lab Activity — How Do You Use A Microscope (Continued)

Looking at the Slide: (Cont'd.)

☐ 5. Turn the [nosepiece] until 200 is under the white line and focus in with the [fine Adjustment] knob. Do you see less "e"?_____

☐ 6. Try each of the Powers now. On which number did you see the whole "e" last?_____

Do you see this /// ? _____

It is just your eyelashes, so relax your eye.

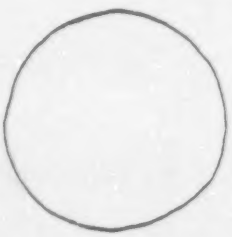
Do you see this ◯? _____

These are just air bubbles, so you can forget about them.

☐ 7. Now change the [diaphragm] opening. Which one gives you the most light?_____

(Look at the number on the dial.)

☐ 8. Draw what you see at 500 Power with the most light possible.



Sample page from lab activity booklet.

THE MICROSCOPE

Lab Activity — How Do You Use A Microscope? (Continued)

What Did You Learn?

See if you can answer the questions below.

1. If the number 300 is under the white line, the specimen is [magnified] _____ times.

   A. 100 B. 200 C. 300 D. 400 E. 500

2. The most light comes through the microscope when the [diaphragm] dial says _____.

3. Look at the [eyepiece]. The number ___[X] is printed on it. This means that the [eyepiece] itself is a [lens]. It magnifies ___[X]. (Times)

4. If the Power of the [eyepiece] [X] the Power of the lens = the total [magnification], figure out the Power of each [lens] below.

EYEPIECE POWER		LENS POWER		TOTAL MAGNIFICATION
10	X	_____	=	100
10	X	_____	=	200
10	X	_____	=	300
10	X	_____	=	400
10	X	_____	=	500

Sample page from lab activity booklet.

THE MICROSCOPE

Lab Activity — How Do You Use A Microscope? (Continued)

What Did You Learn? (Cont'd.)

5. Why didn't you see the whole "e" on 500 Power?

_____

_____

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Sample page from lab activity booklet.

THE MICROSCOPE

Lab Activity — How Do You Use A Microscope (Continued)

Clean Up

Check off each task as you do it.

- ☐ 1. Wash and dry slide and cover slip. Ask the teacher to show you how to do it without breaking them.
- ☐ 2. Put the microscope on 100 Power.
- ☐ 3. Turn out the microscope light at the switch. Then unplug the microscope.
- ☐ 4. Wrap up the cord.
- ☐ 5. Put the dust cover on the microscope and then put it back in the closet.
- ☐ 6. Take these things up to the teacher's desk:
  - ☐ slide
  - ☐ cover slip
  - ☐ scissors
  - ☐ dropper bottle
  - ☐ lens paper
- ☐ 7. Make sure your lab area is clean.

ADOPTING THE CONCERNS-BASED MODEL

Careful planning should precede any attempt to adopt the Concerns-Based (C-B) Model. Through experience, Project ACCESS has identified the factors that influence the potential success of this approach. These critical factors merit consideration prior to implementation of the Concerns-Based Action Planning Model.

A question-answer design is used in this section in order to clarify these important factors.

Why Use The Concerns-Based Model?

Nearly all regular teachers involved in mainstreaming have concerns about the abilities of special students assigned to their class. These concerns usually stem from a genuine desire to see the student succeed. Focusing attention on a teacher's concerns yields the following results:

1. The interest of the teacher is gained.
2. The teacher becomes involved in a dialogue with the special educator.
3. An opportunity is afforded the special educator to work more closely with the regular teacher, offering assistance and guidance.

Various aspects of a typical school day compete for a busy teacher's attention. The C-B approach works because it singles out a topic of particular interest to the teacher. Once attention is focused on this concern, the likelihood of the teacher taking action increases. When assistance and support by the special educator are added, the prospects for action are further enhanced.

This interaction of special and regular educators contributes to dynamic staff development. The special teacher gains a greater understanding of regular education; conversely, the regular teacher acquires knowledge of special techniques. As a result, the action chosen to address the original concern reflects a combination of the strengths of both educators.

Two major principles of Motivation Theory are evident in the C-B approach. The theory holds that motivation is internal; therefore no one "motivates" another person, one can only provide the opportunity for motivation to occur. Furthermore, every person IS motivated, albeit for their own reasons. The Concerns-Based Action Planning Model provides the opportunity for the emergence of a reason to act.

- That teachers will take action as a result of the C-B approach is predicted by Motivation Theory.

- That teachers did take action as a result of the C-B approach has been our experience.

Who Might Use the C-B Approach?

Any educator charged with the responsibility of working with teachers to improve instruction could make use of the C-B approach. In the context of Mainstreaming, however, potential users would include special education resource room teachers, itinerant teachers, special education advisors or consultants, and special education supervisors. In certain situations a guidance counselor, vice principal, principal, psychologist or curriculum specialist might be assigned the job of working with teachers regarding mainstreaming.

The essential qualifications of personnel assigned to implement the C-B model for mainstreaming include:

- a knowledge of special education,
- skill in various instructional techniques, and
- a thorough understanding of the C-B process.

How Is The C-B Model Introduced Into A School?

It is recommended that the C-B approach be introduced to teachers in a straightforward manner. First, simply present a few typical concerns that teachers have had about mainstreamed students. Next, discuss some actions that have been taken to address the concerns. Lastly, invite teachers to participate in the approach.

It has been the experience of Project ACCESS that teachers readily view Concerns-Based Action Planning as a potential service. When assured that support and assistance will be provided, teachers welcome the opportunity to participate. In the project's pilot schools, as many as 40-60% of the faculty members volunteered to explore the process with project consultants. Of these, a substantial portion ultimately made changes in their instructional program to address the needs of mainstreamed students.

A cautionary note: in some schools the project asked principals to select participants from the faculty. In essence, these teachers were "volunteered" through the persuasive powers of the principal. This method of selection did <u>not</u> work as well as teacher self-selection. In the final analysis, most of the teachers selected by the principals resisted change and produced little; the majority of the self-selected teachers made significant changes in their instruction to the benefit of mainstreamed students.

How Is The C-B Model Implemented?

The person designated to implement the approach should:

1. Find out which faculty members are most interested in exploring the C-B approach.

   Introduce the C-B approach (see above) at a
   - faculty meeting
   - inservice program
   - department head meeting
   - coffee klatch, etc.

   Offer to assist teachers who are willing to try the C-B approach. Ask for volunteers.

2. Meet with these teachers individually to talk about their experiences with mainstreaming. Ask what concerns they have about their students. Be open and accepting of their remarks. Avoid taking a defensive posture.

3. Elicit specific concerns from the teacher. Try to isolate the major concern. Concerns are usually first expressed in global terms. Pinpoint specific details that clarify the concern.

4. Encourage cooperative brainstorming. Ask what the teacher might do to address the concern. Make suggestions of your own. Write down all ideas.

5. Consider the merits of each idea. Together with the teacher, analyze the pros and cons for each suggestion.

6. Ask the teacher to select one or more strategies that can be implemented realistically. Encourage the selection of strategies that are practical and that contain the element of personal causation (i.e., strategies that can be implemented solely by the teacher without dependence on others).

7. Support and encourage the teacher. Offer specific assistance (e.g., propose to research a topic or offer to develop a sample packet that might serve as a model for the teacher).

8. Write down all plans. Cooperatively establish time lines for completion of specific steps. Follow up frequently to encourage progress. Prepare to be flexible and understanding if time lines are not met. But also be persistent.

9. Encourage the teacher to report results. Develop alternative plans if the initial plans do not satisfy the concern.

What Is Necessary For Successful Implementation?

A number of factors need to be considered prior to implementating the C-B approach. These factors influence the potential success of any attempt to implement the model.

I. Clarity of task.

A. The person who will implement the C-B approach (the implementer) must:

Knowledge

1. Know the steps of the C-B model.
2. Know how to consult.
3. Be knowledgeable about various instructional techniques.
4. Be familiar with the needs of special students.

B. There must be clearly defined goals for the implementer.

Clear Goals

1. That are attainable given the resources available.
2. That avoid unrealistic expectations by anyone involved.

C. The implementer needs clearly defined authority--what actions can and cannot be taken--so that:

Clear Authority

1. The work does not conflict with existing authority.
2. The work can be accomplished.

II. Mechanics for task functioning.

A. Operating procedures must be determined including:

Operation

1. Where will the implementer get time to do the work?
2. When is the best time to meet with teachers.
3. Where will the teachers get time to do the work?
4. What support in the way of typing and copying materials will be provided? Who will perform these services?
5. How will teachers be selected for participation? How many can be involved at a given time?

B. The operating procedures must be feasible and efficient:

1. Meeting time and location must be convenient for those involved.
2. Sufficient time must be allocated for collaborative work.
3. Disincentives should be outweighed by incentives for participating.

III. Administrative support.

A. The building administrator should give <u>active</u> support by:

Administrative Support

1. Rearranging schedules to avoid conflicts so participants can work together.
2. Providing classroom coverage or payment for overtime work.
3. Releasing participants from other extra duty assignments.
4. Showing an interest in the work by asking participants to report progress.

B. The administrator should arrange for resources such as:

Resources

1. linkages to regional resource centers.
2. typing and copying service.
3. materials and equipment.

IV. Incentives

A. There are several potential rewards for the implementer:

Intrinsic Rewards For Implementer

1. Communication with colleagues is increased.
2. Regular teachers become more cooperative in mainstreaming special students.

B. Additional incentives can be offered to the implementer:

Extrinsic Rewards For Implementer

1. Payment for overtime work.
2. Release time to accomplish work that must be done during the school day.

C. There are several potential rewards for the teacher:

Intrinsic Rewards For Teacher

1. Various teaching techniques and methods of individualized instruction are learned.
2. More knowledge of special needs is gained.
3. Student performance improves.

D. Additional incentives can be offered to the teacher:

Extrinsic Rewards For Teacher

1. Payment for overtime work.
2. Release from other extra duty assignments.
3. Having materials such as learning packets typed and copied.

How Much Time Does The C-B Approach Require?

The total time required of the implementer will depend on how many teachers are involved and how much assistance they need. Project ACCESS found that five to ten hours of staff time was spent working with the typical teacher. However, in a few instances more time was needed. This ranged as high as one hundred hours, e.g., when an entire manual had to be edited for revision. It would be reasonable to allocate ten hours per teacher and plan accordingly.

The time required of each teacher participant also varied during Project ACCESS. For most teachers, twenty hours provided sufficient time to develop a plan and execute it. In a few cases, forty hours or more were needed. It would be sensible to allow an average of twenty-five hours per teacher.

What Are Some Ideas For Funding This Work?

The process of identifying concerns, planning ways to meet those concerns, and developing curriculum as a response to the concerns, is staff development. Some districts may want to use staff development funds to compensate teachers for overtime hours.

Funds used for summer curriculum writing projects are another source for implementing Concerns-Based Action Planning. Attending to the needs of mainstreamed students actually enhances the overall quality of instruction in a school district. Using the C-B approach is a way to examine instruction that has implications beyond the benefits to mainstreamed students. This was witnessed by Project ACCESS. Often, materials developed with the mainstreamed students in mind were subsequently used by the teacher for all students.

Once Implemented, How Can Other Teachers Be Encouraged To Get Involved?

Any multiplier strategy within a given school should involve the teachers who initially participated in the C-B approach. Satisfied users can serve as models and peer-trainers in any of the following ways:

Teachers who have experienced the C-B approach can be paired with a colleague to provide assistance in the same way they received it.

Teachers can share with their department, the materials they have developed for the course.

Teachers can report to the faculty about their experiences and the skills they learned and encourage others to participate.

Teachers can refer colleagues to the person implementing the C-B approach whenever concerns are expressed that can be addressed by this method.

What Are Some Variations of The C-B Model?

In its original design, the C-B approach calls for one-to-one consultation involving an implementer and a teacher. As mentioned earlier, the implementer could be the special education resource room teacher, an itinerant teacher, a special education advisor or consultant, a guidance counselor or any of a variety of role positions outlined in the section: **Who Might Use The C-B Approach?**

However, there are several alternative ways that Concerns-Based Action Planning can be implemented. In certain situations, it might be advantageous to adopt one of the following variations of the C-B approach:

- Group Concerns-Based Planning
- Staff Support Team

Group Concerns-Based Planning

In this variation, the implementer is involved with a group who share a common concern. For example, there may be a general concern in a school about communication between regular education and special education. The implementer would follow the steps of the C-B approach but work with a group of teachers rather than individuals. The group would be composed of special and regular teachers who share a common concern for communication. Project ACCESS found this form of Concerns-Based Action Planning to be very productive. It was especially useful when entering a school where there was resentment and resistance to mainstreaming.

The reader is referred to the section on implementing the standard C-B approach. The methods of implementation are the same. Substitute group for individual teacher.

Staff Support Team

The role of implementer can be shared by a group. Establishing a Staff Support Team provides individual teachers an opportunity to bring their concerns to a team for assistance. In the past decade, various forms of a staff support team have emerged in schools around the nation. Borrowing from these models, Project ACCESS has developed a version of the Staff Support Team (SST) Model and is currently using it to promote effective mainstreaming programs in high schools.

This model is outlined on the following page. Additional information and sample referral case management forms are included on subsequent pages. The procedures for successful implementation of the Staff Support Team Model are outlined at the end of this section.

This forum is particularly useful in dealing with concerns about student behavior. In schools where behavior is a major concern, consideration should be given to establishing a Staff Support Team.

STAFF SUPPORT TEAM MODEL

Features:

1. Team membership involves classroom teachers.
2. One member serves as chairperson.
3. Focus of team is on helping teachers work more successfully with mainstreamed students in the classroom who are having learning and/or behavioral problems.
4. Serves as a resource for ongoing staff development.

Structure: While composition varies according to the availability of personnel and the decision of the staff in each school, membership might include: building principal, regular class teacher(s), a special education or consulting teacher, and the counselor if the school has one. The psychologist and other specialists are invited to participate on a case specific basis. The team meets weekly for an hour.

Function: Provides consultation to school staff. Offers weekly problem-solving forum at which teachers can discuss specific needs of mainstreamed students and receive immediate as well as follow-up assistance. Assistance might include suggestions of strategies for intervention and/or accommodation, obtaining information, and securing needed resources.

Activities:

1. Gathering information and identifying student needs.
2. Brainstorming solutions.
3. Selecting strategies to meet needs.
4. Promoting collaborative efforts of staff in designing and implementing student-centered instruction.
5. Monitoring the implementation of strategies and their effect on the student's progress.
6. Acting as a device for ongoing staff development.

Management: A referral form is filled out by the teacher requesting assistance for a specific student. A record of the meeting, the Team Meeting Report, is developed. The report outlines the strategies selected by the team with a timeline indicating who will implement the strategies and by what date.

The team assigns someone to monitor implementation and periodically request feedback. Alternate strategies can be offered as a follow-up.

OVERVIEW OF STAFF SUPPORT TEAM PROCESS

A. Refer student to staff support team

- usually done by classroom teacher but may be done by any other person with concerns about a student
- chairperson should review referral to determine if it is appropriate for the team and if there is a need for any further information prior to team meeting
- chairperson invites the student's special education teacher to the team meeting.

B. Staff support team meets to:

- look at available information
- suggest intervention strategies to meet the student's needs and to provide support to the teacher
- document a plan
- set a time line to review effectiveness of intervention strategies.

C. Implement intervention strategies.

D. Review results of intervention strategies to determine if:

- student's needs are being met or
- additional intervention strategies are needed.

PROJECTED RESULTS

It is expected that establishing a Staff Support Team Model will help schools improve in the following ways:

Staff Skills Increase

- Staff development becomes a dynamic process as teachers learn from each other.
- The team promotes collaboration. Services are coordinated and the staff develops a higher spirit of cooperation by experiencing a setting in which knowledge and skills can be shared.
- The team, including the teacher, gain a more complete perspective of the child and can, therefore, be more effective in developing an appropriate program for the child.
- The regular education teachers' observation skills improve. The team assists the teacher in identifying problems as well as antecedents and consequences.

Students Benefit

- Student needs are exposed to various viewpoints; new ideas are generated. Many people become interested in the student's success.
- All students benefit from expanded methods and techniques.

Professional Atmosphere Enhanced

- The strengths of teachers are recognized, emphasized and built upon.
- A greater appreciation of the roles of others develops.
- Morale is high because "someone cares."
- Peer support becomes commonplace.
- Coping replaces frustration. Burnout is reduced.

Community Support Increases

- Concern for student success by larger group of staff is viewed by community as positive.
- Efficient utilization of resources appeals to community.

NORTH PENN HIGH SCHOOL
Lansdale, PA. 19446

REFERRAL TO STAFF SUPPORT TEAM

Student Name:_____ Referring Teacher:_____

Grade:_____ Subject:_____

Date of Referral:_____

Area of Concern

Check your area(s) of concern and briefly, but specifically, describe the student's performance, behaviors and attitudes in each area of concern.

ACADEMIC BEHAVORIAL HEALTH RELATED

Your description of the area(s) of concern:_____

_____

_____

_____

_____

_____

_____

Other Observations:

Student displays weak skills in:

_____reading _____study
_____writing _____listening
_____reasoning _____remembering
_____organization

Classroom Attitudes:

_____willingness to work
_____attempts to complete assignments
_____prepares for class

In the classroom, the student displays:

_____difficulty in keeping up with the pace of the regular class
_____short attention span
_____difficulty in verbal communication
_____poor attendance

jm
3/18/83

TEAM RECOMMENDATIONS/ASSIGNMENTS

SUGGESTED INTERVENTION STRATEGIES	TEAM MEMBER RESPONSIBLE	DATE TO BE IMPLEMENTED
Suggested Intervention Strategies: (Star those implemented) Provisions for Teacher Support/Assistance: ___Observation of Student (Classroom, Outside Classroom) ___Student Educational Assessment - Type:_____ ___Assistance in Planning a Program - Type:_____ ___Demonstration Lessons/Strategies Specify:_____ ___Provision of Materials ___Conference re:_____ Additional Data Collection: Follow-Up Provisions: ___Conference with _____ ___Team Meeting ___Person Assigned to Monitor Progress/Implementation ___Written Report of Student Progress ___Contact with Parent		

How Is A Staff Support Team Implemented?

Someone on the staff must be designated as team leader. This could be a principal, special education consultant or other professional outlined in the section: **Who Might Use The C-B Approach?** The team leader must understand the Staff Support Team (SST) approach and be able to facilitate the operations of the team.

The person designated as team leader should:

1. Assemble a team of teachers representing several different disciplines and/or grade levels. Include one or two special education teachers on the team. The regular teachers should be those who have experienced some success with mainstreaming and are willing to share workable ideas with colleagues.

   Members of the team should be willing participants. Present the SST Model to faculty and survey their interest in participating on the team.

2. Prepare the group for participation in a Staff Support Team (SST). Spend several sessions discussing the team. Use the SST materials contained in this guide as training material.

3. Conduct a pilot simulation session using a referral from one of the team members.

4. When the team members are ready to accept referrals, present the SST to the faculty. Announce the procedure for making a referral to the team. Since the concept is new and unfamiliar to the faculty, it may be necessary to advertise the services of the SST numerous times to build interest. Team members may have to actively seek referrals at first. Invite teachers to observe the SST in operation to build further interest. Be aware that it takes time for the SST to "catch on." Once it does, however, there will be more than enough work for the team.

5. A typical SST lasts 45 minutes. The time should be carefully monitored by a facilitator. Allow 10 minutes for the referring teacher to describe the presenting problem or concern. Twenty minutes should be devoted to the brainstorming strategies. The remaining time should be spent selecting the preferred strategies and the implementation procedures.

   Note: As the case load increases, time is also allowed for discussing progress of prior cases.

6. A team member should record all of the strategies that are suggested during the meeting. At the conclusion it should be noted which strategies are selected, who will implement, and the time lines for implementation.

7. A team member should be assigned to follow up and report progress back to the team. A portion of each SST should be reserved to discuss and monitor previous cases. If the initial strategies are not working for a previous referral, reschedule the case for additional brainstorming.

8. Keep the faculty informed. After working on a few referrals, report the cases and the resultant strategies to the faculty. This will build interest in the SST and encourage additional referrals.

SUMMARY OF OTHER MODELS TRIED AND NOT RETAINED BY THE PROJECT

Through extensive research and discussions with other educators, several promising models were identified in the initial phase of Project ACCESS. Four of these models were tried in our field test sites. The Concerns-Based Action Planning Model, as presented in this guide, demonstrated the most success as a means of enlisting regular teachers' involvement in working on behalf of mainstreamed students. The other models failed to produce the same measure of success and were ultimately abandoned in favor of the C-B approach. A brief discussion of their shortcomings are presented for consideration.

Needs-Based Action Planning Model

In this model, a typical needs assessment approach was the basis of planning. A needs assessment was administered to the faculty of one high school. A team of teachers used the results as the content for planning an inservice response.

The team found the needs to be so varied that formulating a practical approach was extremely difficult. This raised frustration among team members. Eventually, the team abandoned the idea of formal inservice and adopted the Staff Support Team Model as a more dynamic form of inservice and ongoing staff development.

There are several problems associated with an approach that depends on a needs assessment:

1. Needs are not always known by a client. For example, if a teacher is unaware that certain information exists, how can a teacher say, "I need to know that information."

2. Needs statements often imply a solution. For example, "I need to have the guidance counselors screen out the students who lack the prerequisite skills for my course." This statement contains a solution and almost precludes thinking about alternative solutions to a problem that remains unspecified. On the other hand, stated as a concern ("Students come into my class without prerequisite skills.") the teacher and consultant are able to address the problem with a host of alternative solutions.

3. Asking people what they need sets up an implicit contract.
   Once a consultant is told by a client what is needed, the expectation arises that the consultant will supply what is needed. It may not be possible to supply all that is needed and failure to do so can generate anger. Thus a process based on a needs assessment might be counterproductive.

There is a concern or a group of concerns at the root of every need statement. By initiating a dialogue at the concerns level, a process begins that will ultimately identify needs with solutions that are attainable.

Competency-Based Training Model

A state task force identified ten competencies for regular teachers to be effective mainstream teachers. A model was developed by the project to deliver training to a high school faculty in these competencies.

The project found several shortcomings in an approach that depended on inservice training:

1. The topics of the training seldom related to current concerns of the clients.

2. The inservice training tended to be theoretical. Even when simulated activities were included, they were no match for the real situation.

3. The scope of potential topics was so complex that any selection tended to be a hit or miss proposition.

Discrepancy-Based Action Planning Model

This process begins with the identification of the "ideal" learning situation. The discrepancies between what would be ideal and what was common practice formed the basis of planning.

This approach is very comprehensive. It would be a perfect model for examining a school when there are adequate resources and a total commitment for the complete renovation of a school program. For purposes of Project ACCESS, however, the needs uncovered proved to be too comprehensive. The project did not begin to have the resources to address all the needs. Consequently, each teacher involved with the project selected one area of particular concern and addressed that area using the C-B approach.

The shortcomings of this approach arise from its comprehensiveness:

1. It is very time consuming. A team worked for twenty hours to identify the need statements.

2. Extensive resources are required to meet the needs that are uncovered.

3. The district administration and staff must be fully committed to change.

This approach, given adequate resources and commitment, would be perfect for comprehensive school improvement. To address a more limited scope such as improvement for mainstreamed students, the approach is too complex.

REFERENCES

ANNOTATED BIBLIOGRAPHY

Original ideas and support for the development of Project ACCESS were gleaned from an intensive survey of many fields of literature. A representative sampling of the books, articles, and pamphlets that were used appear on the following pages.

For ease of location, the abstracts have been organized according to these categories:

BOOKS/ARTICLES/PAMPHLETS	PAGES
Staff Support Teams	108-109
Individualized Instruction	109
Mainstreaming	110
P.L. 94-142	110
Motivation	110
Teacher Behavior	111-112
Mainstreaming Inservices (Specific Exceptionality)	112-113
Mainstreaming Inservices (General Projects/Studies)	114-115
Mainstreaming Inservices (General Methods/Views)	116-121

Prereferral Child Study Team Project.
Judith Busch, Barbara Merves, Terry Allison.
Montgomery County Intermediate Unit, Project AIDE.
Year-End Report/June, 1982.
(Special Education Center/1605-B West Main St./Norristown, PA 19403).

The basic need or concern identified by school district personnel that led to the initiation of Preferral Child Study Teams was the overload of teacher referrals to special education. The Child Study Team is an ongoing, supportive, problem-solving forum comprised of regular teachers and a leader. Help from the team may include assistance, intervention, and monitoring for a teacher experiencing problems with a student having learning and/or behavioral difficulties. It has proven and continues to be effective, efficient, and beneficial to teachers and students.

Conceptually, the Child Study Team process can be applied to other issues. For example, it has been expanded and adapted to meet the needs of Project ACCESS under the name Staff Support Team. Serving as a primary resource for ongoing staff development the composition includes regular teachers working with mainstreamed students.

Implementing P.L. 94-142 in the High School: A Successful Inservice Training Model.
H. Svi Shapiro.
Education, 102 (1), 47-52.

Concern with the implementation of P.L. 94-142 at the secondary level led to this inservice training program developed through a project of the Massachusetts Department of Education, Division of Special Education. The model used a peer-training approach whereby in-school personnel were trained to assume leadership in the planning and delivery of inservice programs to colleagues. Incorporated within the model was a Student Support Team--a group of teachers meeting to pool ideas and resources concerning a particular problematic student. The Student Support Team prereferral concept was especially successful not only in reducing the number of inappropriate referrals for special education, but also for ensuring positive mainstreaming experiences for students. This training model was also deemed successful in changing secondary teachers' attitudes toward special education while learning techniques and skills that work more effectively with the wide spectrum of all students they teach.

School-Based Staff Support Teams: A Blueprint for Action.
Shari Stokes, Eliot Pearson (Eds.).
Indiana University, 1981.
(Leonard C. Burrello/Project Director: National Inservice Network/2853 East Tenth Street/Cottage L/Bloomington, IN 47405).

Intended to be a user's manual, this monograph furnishes the reader with step-by-step directions for establishing or maintaining an indigenous staff support team. A staff support team is a school-based problem-solving group that serves as a resource for ongoing staff development. It fosters the development of a responsive, productive, and satisfying professional climate via meeting specific needs or concerns of teachers or students. Consultation and continuous assistance are offered to staff. Through implementation of a staff support team, staff skills and communication are enhanced, needs of individual students are met, strengths of teachers and students are recognized, and unnecessary referrals to special education are eliminated. This monograph is a clear, concise source book that answers the question of how to facilitate communication between special and regular educators.

Individualized Instruction: A Mastery Learning Perspective.
James H. Block.
Educational Leadership, February 1977, 337-341.

A plea for individualized instruction sets the tone for this article. Guidelines for the effective individualization of classroom instruction derived via the author's years of research and experience on the subject are given. These include developing diagnostic tests with matching supplemental or alternative instruction components; offering the students a variety of effective ways to learn; promoting individualized efforts through school personnel who manifest interest; and striving for the ideal by working within the realities of the classroom. Practical suggestions designed for use in the typical classroom situation are offered.

The Integration of Children With Special Needs Into Regular Education Programs: An Annotated Bibliography.
Lawrence A. Gomes, Jr. (Ed.).
Boston College, February 1973.
(Division of Special Education and Rehabilitation/University Heights/Chestnut Hill, MA 02167).

Published prior to P.L. 94-142, the articles and books reviewed provide an account of the research findings and sentiments on mainstreaming that were mounting. Such issues as special and regular educators working together, ongoing inservice support for regular teachers, attitudinal changes toward special education children, and regular class placement for special education children are as relevant now as they were perceived to be then.

For Your Information...Public Law 94-142 Education for All Handicapped Children Act.
National Learning Resource Center of Pennsylvania, October 1976.
(PA Resources and Information Center for Special Education/ Belmont School/200 Anderson Road/King of Prussia, PA 19406).

Designed in a question-answer format, this pamphlet provides a concise overview of the regulations of Public Law 94-142. The specific regulation regarding inservice programs is the provision of developing training programs for regular classroom teachers who will have handicapped learners in their class.

Motivating Teachers: Practices With Promise. Strategies for Motivating Staff.
John A. DeFlaminis (Asst. Executive Director).
Central Intermediate Unit, October 1983.
(RD 1, Box 374/West Decatur, PA 16878).

Provided in the two-packet workshop design are the elements of motivation and descriptions of procedures to increase and maintain motivation. The highlighted literature findings show that individual achievement and recognition accomplished through participative management techniques and an awareness of individuals' unique needs and concerns pave the way for intrinsic motivation. In turn, intrinsic motivation leads to increased positive job performance.

Identifying Effective Teaching Behaviors for Mainstreaming.
Barbara Larrivee (1982).
Teacher Education and Special Education, 5(3), 2-6.

As part of a special project funded by the Bureau of Education for the Handicapped, teaching behaviors that effect positive change in the special child's performance in the regular classroom were identified. Results of this initial research indicate that 46 out of 74 behavioral variables included in the design characterize teachers who are effective with mainstreamed students. These behaviors are listed according to seven general categories: 1. classroom management; 2, questioning style; 3. academic learning time; 4. individualization; 5. teaching style; 6. classroom climate; and 7. attitudinal variables. A further division designates the characteristic as being performed frequently (high amount of behavior) or infrequently (low amount of behavior).

The findings suggest a tentative profile of teacher behaviors which positively effect mainstreamed students: asks low-order questions; imparts positive feedback or supportive clarifying feedback; rarely uses criticism; responds to students; holds high expectations for students; reinforces on-task behavior; and individualizes instruction according to appropriate learning levels. A second-order validation phase is currently underway.

A Developmental Model for Enhancing Teachers' Personal and Professional Growth.
Sally Glassberg, Sharon Nodie Oja (1981).
Journal of Research and Development in Education, 14 (2), 59-69.

Investigated were the effects of an inservice teacher education program on the cognitive-developmental level of participants. In general, it represented an attempt to change the behavior patterns of adults. The conclusions and future suggestions addressed by the authors are congruent with other inservice literature and information on the process of change. They state that inservice programs incorporating particular relevant concerns of an individual or small group and providing continual supportive feedback can help to effect positive change in teaching behavior.

Factors Affecting Student Performance: A Model for Professional Development.
Lawrence H. Stewart, Joan P. Avis.
California Journal of Educational Research, 26(3), 124-129.

The Factors Affecting Student Performance (FASP) model is explained in this article. Recognizing the teacher as the key individual to establish effective learning conditions, the authors have developed a workshop designed to increase teachers' awareness of their powerful change agent roles. Through acquainting teachers with relevant literature, encouraging teachers to examine their own behavior, and supporting teachers in attempts to make educational revisions, it is hoped that the goal of assisting students to learn and achieve in school is attained.

Teaching Secondary Learning Disabled Students in the Mainstream.
Theresa E. Laurie, Lorie Buchwach, Rita Silverman, Naomi Zigmond (1978).
Learning Disability Quarterly, 1, 62-72.

Recognizing that most teaching in secondary schools relies upon the use of uniform instructional procedures, the authors describe a functional, systematic approach to assist regular educators in planning instructional modifications for secondary learning disabled students. The eight-step sequence requires the special educator to fulfill a consultative role and incorporates practical alternative teaching methods with ongoing support and encouragement for implementation of thes methods. Directed to secondary learning disabled students, the approach lends itself to use with other exceptionalities. The basic principles embodied in the approach necessitate the collaboration of special and regular educators, the acknowledgment of regular educators' specific concerns regarding mainstreaming, and the exploration of realistic modifications.

Help Teachers With Mainstreaming Now: Training in Behavior Management.
T. Hennessy Powell (1980).
Education Unlimited, 2(5), 11-13.

While specifically citing the need for inservice training for regular educators in behavior management of mainstreamed and other students, the author calls upon the use of successful general techniques in planning such programs. The presentation of practical, validated techniques, the demonstration of techniques via simulation and field application, the need for motivators, and the vital use of follow-up assistance during the actual application of newly-learned skills are some techniques examined.

Inservice Training: Planning the Programs.
Gary Meers.
Journal of Vocational Education, 56(3), 35-37.

Presented is a rationale for planning inservice programs to meet the needs of vocational teachers who serve special needs students in their classes. As a first step, a needs assessment must be conducted to ascertain relevant concerns of participants. Program goals and objectives incorporate these concerns and are measurable, performance-based, and attainable. Actual implementation follows the preferred modes of presentation in a particular school, whether it be workshop or seminar formats. Practical, hands-on experiences provided during inservice training necessitate a program of follow-up activities to ensure transfer back into the classroom. Well-planned inservice programs based on the concerns of vocational teachers will lead to better programming for special needs students.

A Successful Mainstreaming Inservice Program and the Importance of Teacher Attitudes.
Jeffrey W. Hummel (1982).
Teacher Education and Special Education, 5(3), 7-14.

Described in this article is a successful inservice program implemented with thirty-six regular educators (32 teachers, and one of each of the following: school psychologist, guidance counselor, resource teacher, and teacher assistant) who have or will be receiving mainstreamed special education students. Incorporated in the program are effective inservice components as identified in general inservice literature. The author calls for responsive inservice education (as opposed to prepackaged approaches) designed to meet the varied interests, needs, and concerns of educators involved with mainstreaming.

Getting It Together: Toward Effective In-service Delivery.
Karen A. Waldron (1980).
The Pointer, 24(3), 68-75.

A Bureau of Education for the Handicapped-funded project for a teacher inservice program to prepare regular school personnel to meet the needs of mainstreamed students is described in this article. To identify and implement research-based principles for effective inservice delivery was the primary focus of the San Antonio-based project. Underlying principles incorporated within the project included: activities based on teachers' concerns or needs; cooperative special-regular educator involvement; active teacher role in planning inservice; practical and relevant content; and continual support to change behavior after completion of the inservice program. Evaluation of programmatic success employing various measures is ongoing.

Evaluating Teachers' Use of Inservice Training.
Robert M. Wilson, Irene Blum (1981).
Educational Leadership, 38(6), 490-491.

An attempt was made in this study to determine how much teachers actually used the information and ideas presented at an inservice program on teaching strategies. Follow-up classroom observations and teacher interviews were employed as assessment strategies. Results showed 20% of the 31 classrooms observed contained evidence of the use of inservice ideas. The impact of inservice training may be more precisely gauged by determining teachers' perceived needs or concerns prior to training and then evaluating in the aforementioned follow-up manner.

Mainstreaming Inservice: Structure and Content.
Judith P. Busch, Christine L. Lewis (1979).
Education Unlimited, 1(5), 7-12.

Expressed concerns regarding mainstreaming of over 300 regular and special educators in one Pennsylvania county have been transformed into several organized methods of inservice presentation. Analysis of the concerns resulted in an outline of topics formulated under 5 categorical headings: philosophical and legal issues; diagnosis/assessment/referral/evaluation; curriculum and instruction; environment; and administration. Emphasized throughout the article is the point that the inservice methods mentioned provide a basis only from which to plan specific inservice programs. These specific programs need to vary according to the concerns of a particular school-group and need to involve in-school teachers in the planning and operation of such programs.

A National Initiative: Training All Educators to Better Serve Handicapped Children.
Leonard C. Burrello, Toby Strout, James E. Siantz (1979).
Education Unlimited, 1(2), 36-41.

Two major provisions of Public Law 94-142 have required significant changes in the educational system. These provisions are the individual educational planning process and placement in the least restrictive environment. They carry the implication of total collaboration between regular and special education. A priority program to support regular education inservice by the Bureau of Education for the Handicapped occurred as a result of the mandates. In 1978, the National Inservice Network (NIN) was formed to serve as a temporary organization to disseminate information on regular inservice programs. Through NIN, a structure was created in which learnings and resources on supporting regular education personnel in positive ways to interact with and teach special children were shared.

Secondary Inservice.
Janice M. Brown.
Indiana University, 1982-1983.
(Department of School Administration, Department of Special Education/Bloomington, IN 47405).
NOTE: Council of Administrators of Special Education, Incorporated (CASE), Information Dissemination Packet.

This packet summarizes the major issues related to successful secondary inservice programs that address the needs of regular and special education teachers, levels 7-12, who are serving the mildy handicapped. Major research findings of current secondary inservice practices are presented as well as two selected exemplary models of inservice projects. An annotated bibliography provides the reader with further information. The underlying themes seem to imply that collaborative planning between regular and special educators is critical; that meaningful inservice training incorporates the perceived needs or concerns of the particular participants; and that inservice is a continual process mandating ongoing support and feedback.

Inservice Education--Staff Development.
Edith Beatty.
Indiana University, 1982-1983.
(Department of School Administration, Department of Special Education/Bloomington, IN 47405).
NOTE: Council of Administrators of Special Education Incorporated (CASE), Information Dissemination Packet.

Addressed in this packet is the need for successful collaboration of regular and special education through effective staff development programs consistent with the regulations of P.L. 94-142 (Comprehensive System of Personnel Development component). While acknowledging the inability to be all-inclusive or definitive, the author has provided a collection of best practices, major learnings, and future directions currently proposed in the field of inservice training. Quality practices support mutual decision-making between regular and special educators derived by individually assessing needs or concerns and conducted in a continual, developmentally supportive manner.

Searching for Ways to Assess the Impact of Inservice Efforts.
William C. Miller (1981).
Catalyst for Change, 10(2), 10-13.

The author calls for inservice experiences which have the greatest possible positive impact on how the participant performs on the job and on the persons with whom the participant works. Various assessment approaches are identified and explained. This is an attempt to provide inservice planners with an awareness of the need to evaluate and an incentive to do so. Efficacious inservice education can result in modified behavior on the part of the participants which has a positive impact on those persons with whom the participant works, i.e., students reap the benefits of a positive change in teacher behavior.

Inservice Training for the 1980's.
Joyce Evans (198?).
Journal of the Division for Early Childhood, 2, 67-73.

A concise overview of inherent problems with current inservice training and a description of ways to improve the quality of future inservice training are provided. Points for improvement include: recognition of the differences between preservice and inservice training; incorporation of learning characteristics of adult learners; focus on content specific to needs; allowing for a variety of inservice options and strategies to meet individual learning styles; critical selection of consultants; and finally, full assessment of individual concerns both prior to inservice planning and after the completion of a program. The last point is highly emphasized. The author contends that effective relevant inservice can only evolve when the practical concerns of the participants are addressed.

In-servicing School Staff for Mainstreaming.
Barbara Jewell, Mary Newhams, Bruce J. Bishoff (1976).
Mainstreaming Conference II Proceedings, October 28, 29, 65-71.

A set of guidelines for the planning of an inservice program on mainstreaming is outlined. Stressing the need for program-specific inservices (rather than predesigned models), the authors have presented an open-ended format. Initially the gathering of individual needs or concerns is completed. From general stated concerns, issues are specified and categorized leading to the design of content-relevant programs. Evaluation procedures are incorporated formatively, summatively, and progressively.

Synthesis of Research on Staff Development.
ERIC Clearinghouse on Educational Management (1980).
Educational Leadership, 38, 182-185.

The majority of the literature on staff development are evaluation reports based on subjective opinion techniques. Through intensive research, four experimental studies were found which are corroborative in their findings regarding effective staff development programs. Themes occurring repeatedly in these studies show that effective staff development programs address the individual on-the-job needs or concerns of each participant; are ongoing rather than one-shot programs; invite teacher participation in choosing and running programs; and allow for continual feedback on demonstrations and practice of new skills in the natural setting.

Strategies for Successful Inservice Training for Mainstreaming.
Stanley A. Fagen, Jan Wintrol (1983).
The Pointer, 28(1), 6-11.

This timely article focuses upon the need to accept and work with the realistic limitations of providing inservice on mainstreaming. From insights gained during five years of experience in the area, the authors have cited three significant inservice limitations: funding restrictions, competing community problems, and staff participants' resentments and negative expectations formed from prior inservice experience.

A practical set of strategies for each problem are suggested as ways to counter the limitations. These include: ongoing inservice activities to promote long-term change; the nurturing and training of local teachers to serve as inservice coordinators; and the creation of a range of inservice activities to meet the expressed concerns of each participant.

Inservice Best Practices: The Learnings of General Education.
Harry M. Hutson, Jr. (1981).
Journal of Research and Development in Education, 14 (2), 1-10.

Aided by support from the Bureau of Education for the Handicapped, the author has prepared an excellent overview of inservice best practices by surveying a large selection of the most current and authoritative literature available. Three domains of inservice are differentiated though recognized as not mutually exclusive: procedural includes political questions of control, support and delivery of inservice activities; substantive consists of technical questions of actual content or procedure; and conceptual answers the philosophical questions of theory and rationale. Because the fifteen best practices are stated succinctly and because each is grounded in the others, they are directly quoted as follows:

1. Decision making should proceed as an authentic collaboration of inservice clients, providers and relevant constituencies.
2. The incentives for participating in inservice programs should emphasize intrinsic professional rewards.
3. Inservice programs should be explicitly supported at the outset by district and building administrators.
4. Outside agencies/consultants may be helpful in supportive roles.
5. The implementation strategy should include continual professional growth activities and the local development of materials, within a framework of collaborative planning by participants.
6. The design of inservice programs should be complex and ambitious (with clear and specific goals).
7. Inservice programs should be planned in response to assessed needs.
8. Inservice trainers should be competent.
9. The school site should be the locus of inservice activities.

10. The evaluation of inservice should be a collaborative venture whose primary purpose is to assist with planning and implementing programs.
11. The content of inservice should be derived from assessed needs.
12. Inservice content should be directed toward changing teaching, not student behavior.
13. The process of inservice education should model good teaching.
14. Inservice education should follow a developmental, not a deficit model.
15. Inservice should be an integral part of the total school program.

The reader is referred to the article for an in-depth discussion of each best practice. Prominent themes appearing throughout the best practices discussion are collaboration and interaction among all clients, alignment of the three domains, and planning and content based upon relevant concerns.